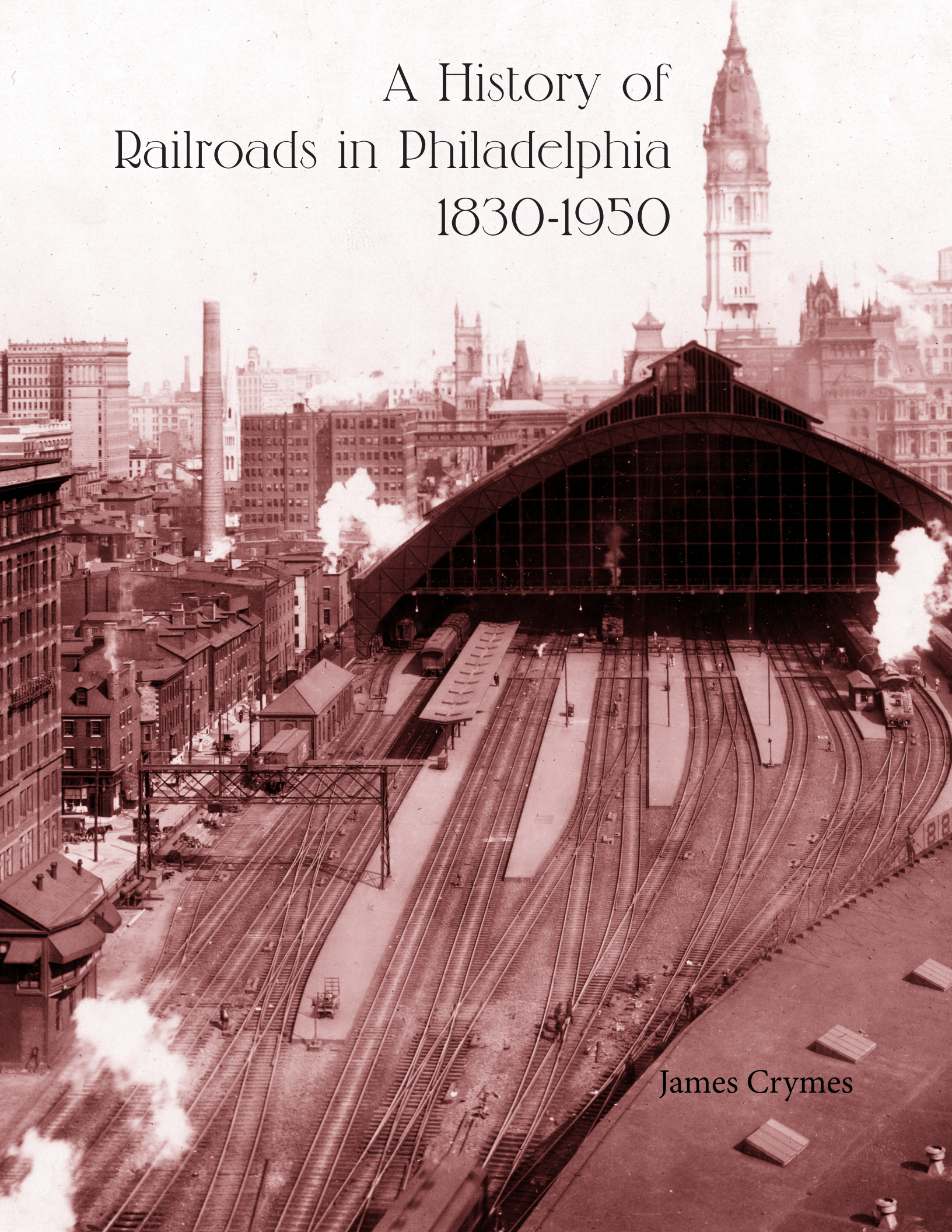


A History of Railroads in Philadelphia 1830-1950



James Crymes

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Railroads in Philadelphia
1830-1950

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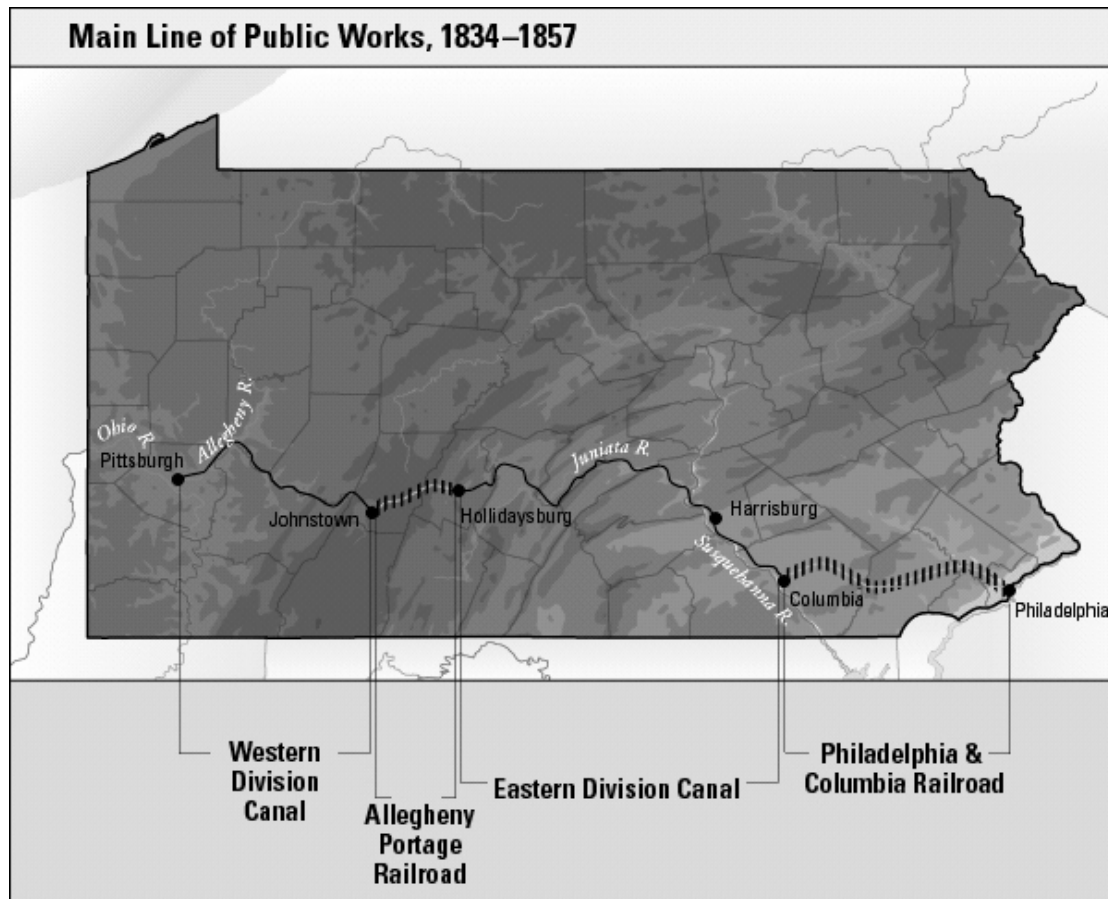
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1830-1850

“These meditations are incurred in the ancient and noble city of Philadelphia, which is a surprisingly large town at the confluence of the Biddle and Drexel families. It is wholly surrounded by cricket teams, fox hunters, beagle packs, and the Pennsylvania Railroad.”

-Christopher Morley

1830-1850



Main Line of Public Works

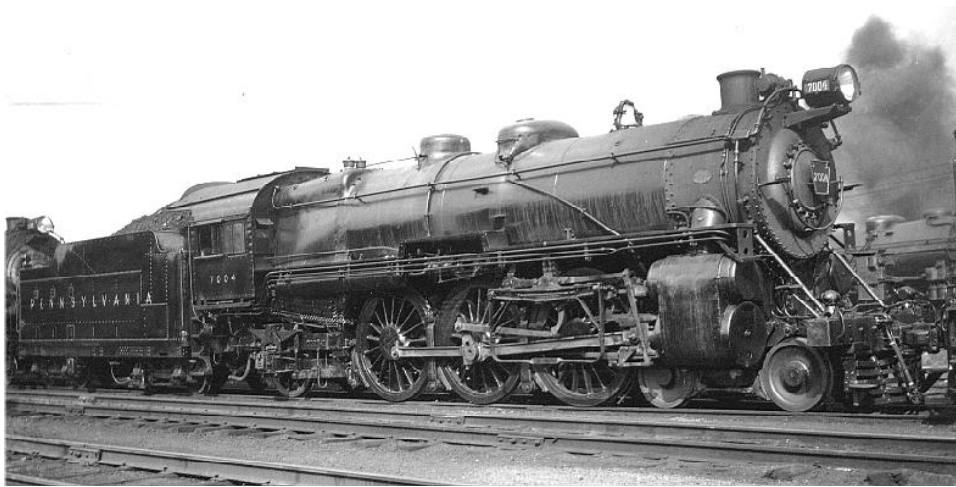
By the mid-1820s, Pennsylvanians saw the success of the Erie Canal between Albany and Buffalo, which connected New York City and the Great Lakes system. Since the Canal threatened the industries of Philadelphia to remain competitive, plans were conceived for an all-water route from Philadelphia to Pittsburgh. The line was split into segments based on geography, incorporating canals, inclined planes, and railroads, which were emerging as a viable alternative to canal transportation. The Main Line of Public Works opened in 1834, beginning with the Philadelphia and Columbia Railroad section. Initially, trains were pulled by horses, but the volume of traffic on the line soon necessitated the use of new locomotives. The Main Line was the first multi-modal form of transport to the western parts of Pennsylvania. Owned and operated by the State, the line initially functioned as a toll road, with companies using their own cars to transport their own goods. The Main Line established viable new trade routes that drastically reduced travel time between Philadelphia and Pittsburgh. A large population also migrated to Pittsburgh and destinations beyond, establishing new cities and trade locations. Increased costs of maintaining the line and the inefficiency of transferring between boats and train forced the state to sell it to the Pennsylvania Railroad Company in 1857, which established the route as its main trunk line moving forward. The Main Line of Public Works popularized the term "Main Line" for an affluent stretch of communities in the suburbs of Philadelphia.

West Chester & Philadelphia Railroad

The West Chester & Philadelphia Railroad originated as a route through the southeastern Pennsylvania farmland, bringing milk and other dairy products into the city of Philadelphia. Though chartered in 1848, the WC&P did not complete its full line until 1858. In 1851, it purchased land to build depots at both Thirty-First and Market and Thirty-First and Chestnut Streets. That same year, the WC&P was granted rights to connect to the Philadelphia and Columbia Road in West Philadelphia. To establish its presence in Center City, the WC&P first used a depot on Eighth and Market for its trains, but leased the Commonwealth Passenger Station in 1854. As business increased, the Railroad built a succession of passenger and freight depots at Thirty-First and Chestnut Streets. While the Pennsylvania Railroad also maintained a branch line to West Chester, the WC&P's branch provided access for freight and passenger service southwest of the City. In 1880, the West Chester & Philadelphia Railroad was purchased by the Philadelphia, Wilmington, and Baltimore Railroad, which was then acquired by the PRR in 1881. The acquisition by the PRR immediately increased Broad Street Station's volume, quickly overwhelming its facilities. When Broad Street Station underwent expansion in the early 1890s, the WC&P depot in West Philadelphia reopened temporarily until the renovations were finished. While the West Chester & Philadelphia Railroad suffered the same fate as the rest of the PRR subsidiaries, part of its line is used by SEPTA in its Media/Elwyn route.



The West Chester and Philadelphia Railroad depot, pictured here in 1888. This side faced Thirty-First and Walnut Streets.



The PRR's iconic K4, named the official steam locomotive of Pennsylvania in 1987.

Pennsylvania Railroad

The inadequate and inefficient Main Line of Public Works showed state officials that a railroad across Pennsylvania to Pittsburgh was necessary to maintain Philadelphia as a competitive market. Threatened by a Baltimore & Ohio Railroad proposal to create a line from Baltimore to Pittsburgh, the governor of Pennsylvania signed legislation in 1846 to authorize a railroad from Philadelphia to Pittsburgh which, if started first, would negate the B&O's line. Thus the Pennsylvania Railroad was formed, quickly constructing a line from Harrisburg to Pittsburgh. In 1857, the PRR purchased the Main Line of Public Works and extended its trunk line to Philadelphia.

In just a few short decades, the PRR became the largest business in the world, through acquisitions of dozens of competing railroads in the eastern United States, shrewd business operations, and superior equipment, facilities, and quality of service. At its peak, the PRR consisted of 10,000 miles of rail lines and over 800 different companies, mostly railroads under lease or purchase, as well as buses, ferries, and real estate holdings. Its freight empire was only matched by its ubiquitous passenger service, stretching from the Atlantic Ocean past Chicago. It constructed grand passenger stations along its line, many of which still exist today. The main headquarters for the PRR was located in Philadelphia, changing buildings over the years, but notably occupying the offices of Broad Street Station and the Pennsylvania Railroad Office Building, now part of Drexel University, after 1929.

The PRR declined after World War II, unable to compete with the growing popularity of automobiles and the shrinking demand for freight and passenger services. In 1957, the PRR merged with its longtime rival New York Central Railroad, forming the Penn Central Transportation Company. The PC filed for bankruptcy in 1970, and the existing network was divided between the Consolidated Rail Corporation (Conrail) for freight services and the National Railroad Passenger Corporation (Amtrak) for intercity passenger rail. Both of these corporations were owned by the U.S. government. Conrail filed for bankruptcy in 1999, and its assets were divided between CSX Transportation and the Norfolk Southern Railway which, along with Amtrak, still control a vast portion of the country's freight and passenger services.

City Railroad

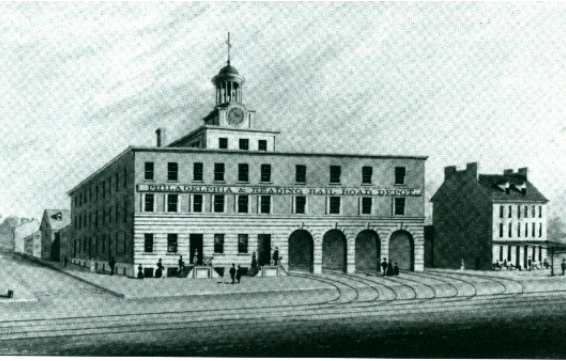
Because of a prohibition on steam locomotives in the city proper, railroads in the mid-1800s established their terminals on the outskirts of the city, and used horse-drawn vehicles to go the rest of the way. One of the earliest lines was the publicly owned City Railroad, established by the City itself in 1833. By 1837, horses hauled freight and passenger cars of various companies down Broad Street from the Philadelphia and Columbia Railroad’s depot on Vine Street to the Philadelphia, Wilmington, and Baltimore’s connecting tracks on Cedar Street (currently South Street). The line also branched east along Market Street to Third and Dock Streets, connecting with ferries at the Delaware River waterfront. In 1850, after the relocation of the Philadelphia and Columbia terminus to West Philadelphia, the City Railroad was extended along Market Street over the Permanent Bridge in order to meet it. The City Railroad connected major transportation lines at a time when locomotive travel into the city was not a possibility. Throughout its lifespan, city officials and negatively affected business owners called for the City Railroad’s removal, as it was regarded as an inconvenience and a nuisance that added more people, trains, and horses to already overcrowded streets. Gradual removal of trackage became a reality in the 1870s, as new depots on the fringes of the city allowed for the circumvention of travel over Broad and Market Streets. The last of the line was removed in 1881, in anticipation for the PRR’s new Broad Street Station.



Broad and Market in the 1860s. Horses hauled freight and passenger cars along the City Railroad, seen in the background.

Philadelphia and Reading Railroad

Chartered in 1833, the Philadelphia and Reading Railroad was conceived as a link between the shipping ports of Philadelphia and the vast coal regions of northern Pennsylvania. Its main route stretched from a depot at Broad and Cherry Streets in Philadelphia to Reading, providing freight and passenger service along the way. The country’s growing need for coal turned the Reading into one of the biggest corporations in the United States. While it never equaled the empire amassed by the Pennsylvania Railroad, the two companies did compete for both freight and passenger service in the area around Philadelphia, often running tracks side-by-side along routes like the Schuylkill River, Harrisburg, and Atlantic City lines. In Center City, the two built imposing stations only blocks away from each other in the forms of Broad Street Station and the Reading Terminal. The declining demand for coal, competition with automobiles, and strict government policies forced the Reading out of the railroad business, and it finally relinquished control of its operations to Conrail in 1976. Like the PRR, the Reading Railroad fed the economy’s ever-increasing need for freight services and satisfied a country’s obsession for the wonder of railroad transportation. Today, most of the lines in the Philadelphia area are still utilized by SEPTA’s passenger services.



The first Philadelphia and Reading Railroad depot, on the southeast corner of Broad and Cherry Streets, opened in 1839.

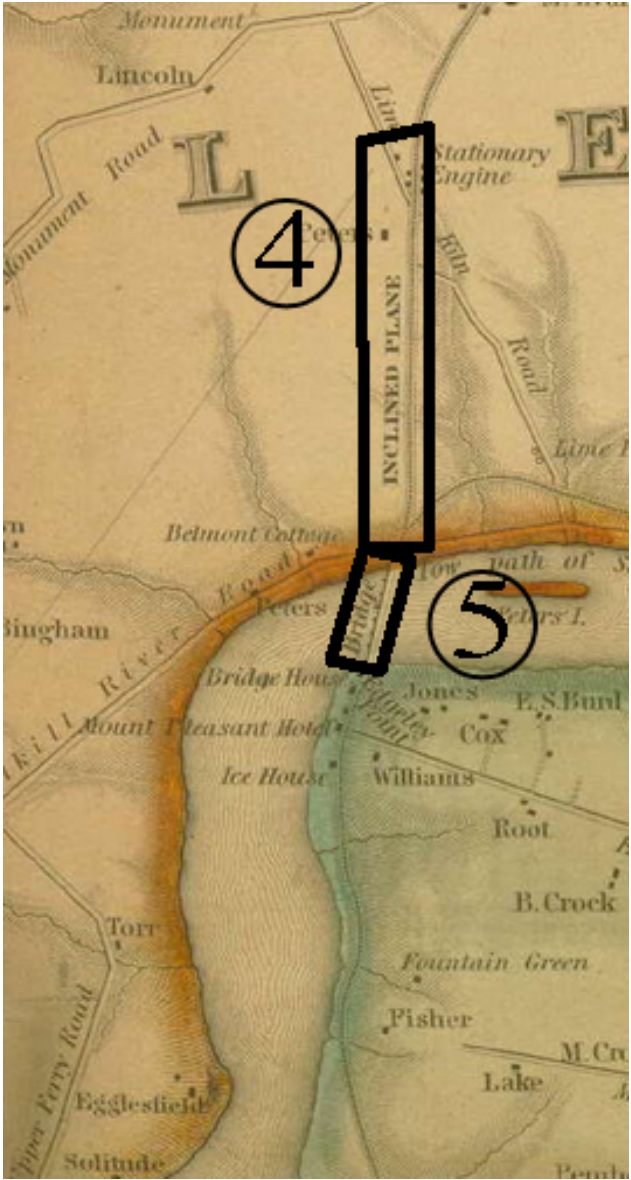
Philadelphia and Columbia Railroad

As the first section of the 1834 Main Line of Public Works, the Philadelphia and Columbia Railroad stretched from a depot at Broad and Vine Streets to the town of Columbia, east of York, Pennsylvania. Columbia connected to crucial ports north and south on the Susquehanna River, allowing a water route to Baltimore, Maryland and westward to Pittsburgh. The P&CRR was the first railroad in the United States owned and operated by a government, the Commonwealth of Pennsylvania. From the depot on Broad Street, the Railroad traveled northwest over Pennsylvania Avenue, crossed the Schuylkill River over the new Columbia Bridge, and ascended the Belmont Plane in Fairmount Park. From there, the line went forth over rails to Columbia. Looking to bypass the inefficient Belmont Plane, the P&CRR rerouted the line into West Philadelphia, near Thirtieth and Market Streets, and abandoned the plane. The Columbia Bridge and lines east into Center City were sold to the Philadelphia & Reading Railroad in 1851. In 1857, the Pennsylvania Railroad purchased the Main Line of Public Works, including the Philadelphia and Columbia Railroad, therefore controlling the entire route from West Philadelphia to Pittsburgh. In the following years, the PRR discontinued use of all remaining inclined planes and canals along the route, creating the first all-rail line to Pittsburgh.

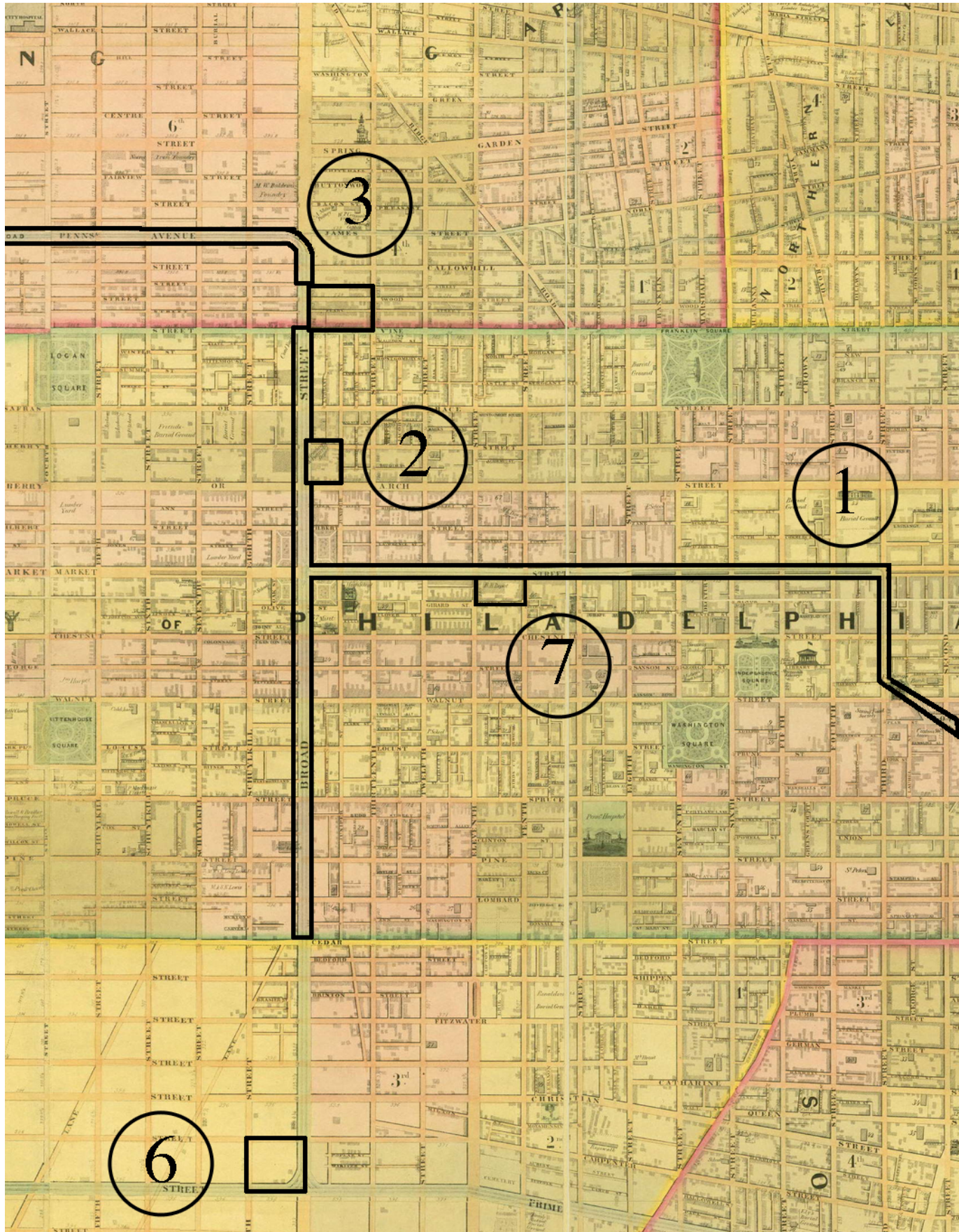


The route of the P&CRR from Athensville to the Schuylkill River. The line below it shows its replacement, the West Philadelphia Railroad.

1830-1850



- 1. City Railroad
- 2. Reading Railroad Depot
- 3. Philadelphia and Columbia Railroad and Depot
- 4. Belmont Plane
- 5. Columbia Bridge
- 6. Philadelphia, Wilmington and Baltimore Depot
- 7. Pennsylvania Railroad’s First Passenger Depot



The Belmont Plane on the Main Line of Public Works. Located on the western banks of the Schuylkill River, it opened for service in 1833, abandoned in 1851.

Belmont Plane

The Belmont Plane was a half mile long inclined plane stretching from the western banks of the Schuylkill River to the summit of the Belmont Plateau in Fairmount Park. A necessary link between the Connecting Bridge across the River with the gently sloping lands west of Philadelphia, the steep incline required a stationary steam engine to hoist and lower railroad cars up the hill. Before and after, horses carried the cars the rest of the way, and later locomotives. In 1836, a Norris Locomotive Works locomotive named George Washington climbed the Belmont Plane, making it the first locomotive to successfully travel an inclined plane under load. Despite its importance, from the beginning, alternative routes were surveyed to bypass the slow, inefficient, and costly plane. The West Philadelphia Railroad route was selected in 1850 to replace the Plane. Immediately afterward, the Belmont Plane was abandoned completely in favor of a faster and safer route.

Columbia Bridge

The first Columbia Bridge was built in 1834 by the Commonwealth of Pennsylvania as part of the Main Line of Public Works project to connect Philadelphia with Columbia, Pennsylvania. It spans the Schuylkill River into West Fairmount Park a few miles north of the present site of the Philadelphia Museum of Art. The bridge connected the Belmont Plane with the Philadelphia and Columbia depot at Broad and Vine Streets in Center City. When the West Philadelphia Railroad was built to bypass the Plane, the line eastward, including the bridge, was sold in 1851 to the Philadelphia & Reading Railroad, which incorporated it into its main line to Reading, PA. The Columbia Bridge was the first crossing of the Schuylkill River to allow for continuous train movement from Center City to western Pennsylvania and thus was critical for the establishment of the Main Line of Public Works. The Reading replaced the wooden bridge with an iron truss bridge in 1886 to handle the heavier locomotives and trains on the line. The current Columbia Bridge, completed in 1920, now carries CSX Transportation's Trenton Subdivision line.



The current Columbia Railroad Bridge, completed in 1920.

Philadelphia, Wilmington & Baltimore Railroad

In 1838, multiple railroad companies merged their lines in Delaware, Maryland, and Pennsylvania to form an all-rail route from Philadelphia to Baltimore. The Philadelphia, Wilmington & Baltimore Railroad connected the two important port cities with freight and passenger service, and carved out a portion of the industry in Philadelphia dominated at the time by the Pennsylvania Railroad. The PW&B's main depot was built in 1852 in South Philadelphia at Broad and Washington Streets. This station was the main departure point for Philadelphia soldiers heading to fight in the Civil War. It was replaced in 1876 by another depot built to accommodate the increased volume of the Centennial Exhibition. This depot still exists today as a storage warehouse. From Broad Street, the Railroad operated east along the Southwark Railroad, providing access to the crucial industrial and shipping facilities on the Delaware River. It constructed the Newkirk Viaduct over the Schuylkill River, which connected to points south, as well as a massive bridge over the Susquehanna River in 1866, allowing trains to cross first time without having to transfer to ferries. Any movement to the north required using the PRR's section of the Junction Railroad through West Philadelphia. In 1881, the PRR acquired the PW&B, giving it complete control of lines from New York to Washington, D.C. This takeover required the Baltimore & Ohio Railroad to build its own line into Philadelphia, the Baltimore and Philadelphia Railroad.



Philadelphia, Wilmington, and Baltimore Railroad's depot at Broad and Prime Streets (now Washington Avenue). The PW&B moved here in 1852 from depot at Eleventh and Market Streets.

1850–1870

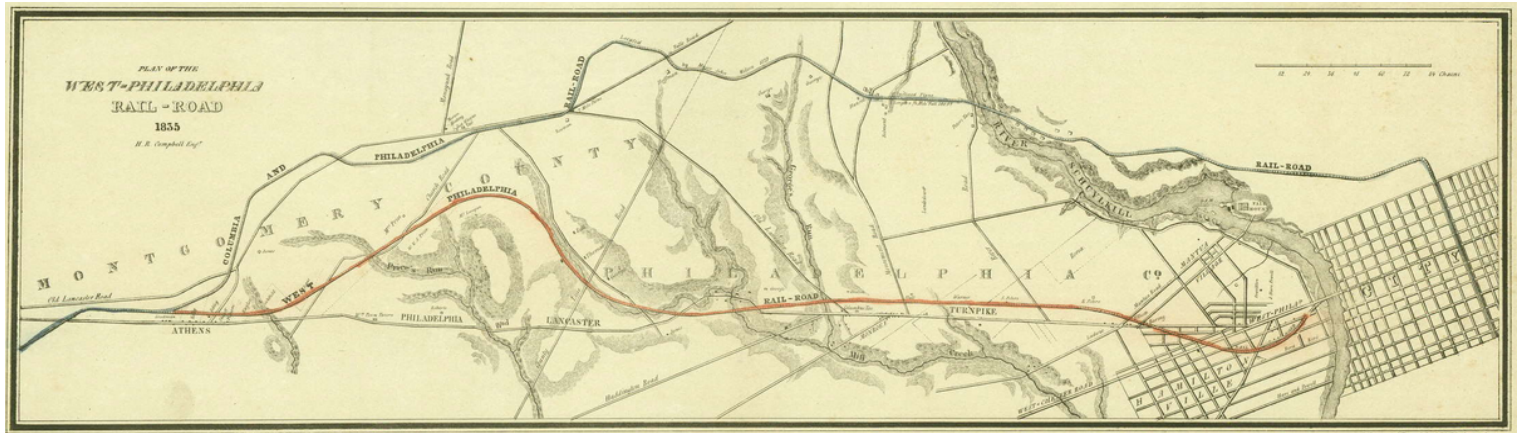
Carnegie, like many Americans, believed that the railroads provided the greatest technological, organizational, and financial challenges and opportunities of his generation. He also knew that the PRR, as the nation's preeminent railroad, offered more potential than any other company in the United States.

*-The Pennsylvania Railroad, Volume 1:
Building an Empire, 1846-1917*

1850-1870



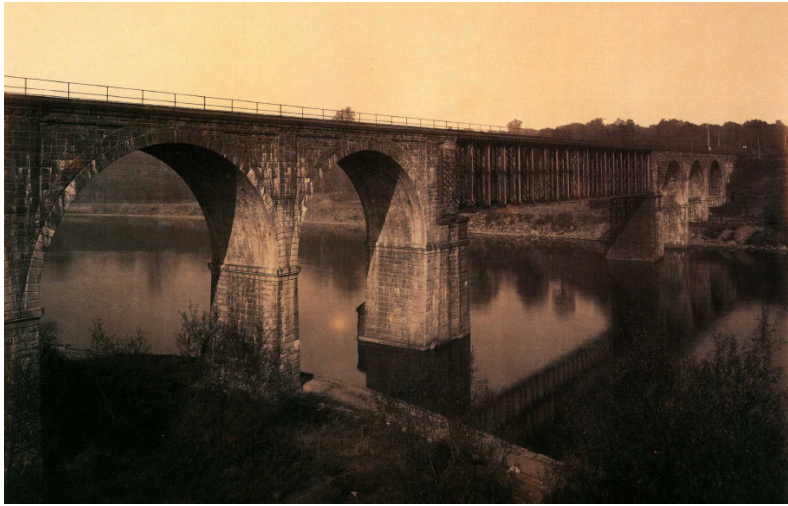
Mantua Junction along West Philadelphia Railroad, 1850.



Original plan of the West Philadelphia Railroad, 1835. The completed version of the line in 1850 ran north along the Schuylkill River before turning west.

West Philadelphia Railroad

Officials wanted to find an alternative route around the inefficient inclined Belmont Plane before it was even finished in 1834. The West Philadelphia Railroad was chartered in 1835 to build such a route, but ran into financial troubles before construction could be completed. The state took it over and completed the route in 1850, immediately abandoning the use of the Belmont Plane. The new route did not cross the Schuylkill River over the Columbia Bridge, but paralleled the west side of the River from around Thirtieth and Market Streets, where it connected with the City Railroad through the village of Mantua to the north. From here, the lines ran next to the Lancaster Road to the town of Ardmore, where it reconnected with the old route of the Philadelphia & Columbia. At Ardmore, the line continued on to Pittsburgh. The construction of the West Philadelphia Railroad established the trunk line route of the Pennsylvania Railroad from West Philadelphia to Pittsburgh. Soon after its terminus was finished in West Philadelphia, the surrounding land was converted into rail yards and depots for passengers and freight. This land serves the same functions to this day, as the rail yards for Amtrak and SEPTA at 30th Street Station.



Original PRR Connecting Railway Bridge over the Schuylkill River. Opened in 1867, it connected Mantua Junction with the Philadelphia and Trenton Railroad.

Connecting Railway Bridge

The Pennsylvania Railroad's original route to New York required rail gauge changes and indirect detours. The Connecting Railway Company constructed a 6.75 mile connection between Mantua Junction in West Philadelphia to the Philadelphia & Trenton Railroad in North Philadelphia. Once completed in 1867, the Connecting Railway Bridge provided the PRR a direct route to New York for the first time. The route itself became part of the Northeast Corridor, the busiest rail route in the United States. The efficiency provided by the bridge helped the PRR grow its West Philadelphia rail yards, making it an important through-stop on the way to Washington, D.C. With only minor reconstruction in 1915 and the electrification and addition of more tracks, the Connecting Railway Bridge is still used by SEPTA and Amtrak.

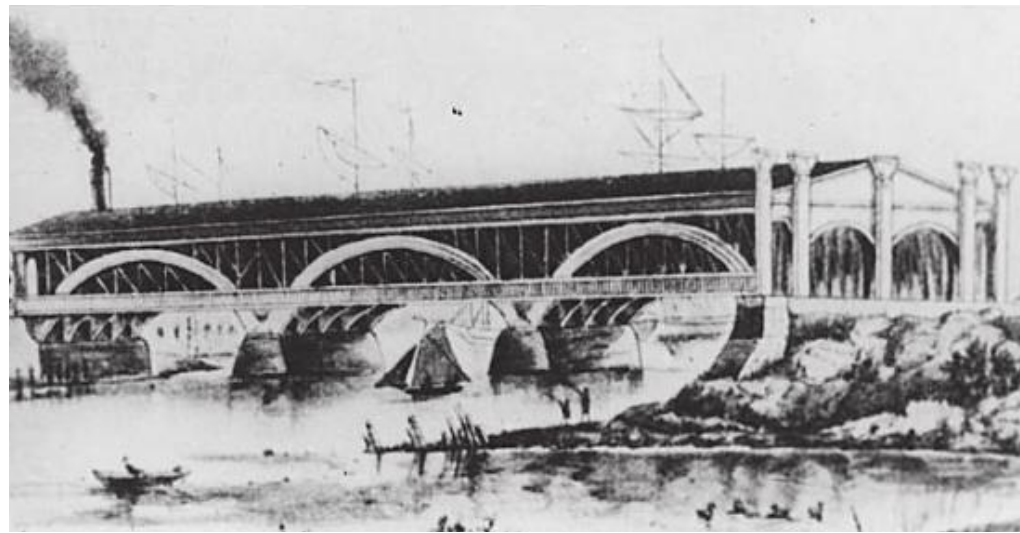


A rare photograph of the West Philadelphia Station in 1864. The depot shown here was for passengers traveling to New York.

West Philadelphia Station

With a sufficient portion of the Junction Railroad completed by 1864, the PRR recognized the opportunity to establish a station along the line. Not interested in dealing with the hassle of transferring passengers along the City Railroad, the PRR closed its depot at Eleventh and Market Streets, effectively ending its operations in Center City, for the time being. At Thirtieth and Market Streets, the PRR built a freight station and two passenger depots, collectively known as West Philadelphia Station. One passenger depot provided service for through-trains north to New York, while the other sent passengers west to Pittsburgh. The location along the Junction Railroad was ideally situated as an efficient connecting station through Philadelphia without having to cross the Schuylkill River. The station allowed passengers to connect to City Railroad streetcars into Center City, and also provided a new hub from which new businesses radiated into West Philadelphia. With the impending Centennial Exhibition, the PRR built a new station on a much larger scale one block to the west in 1876.

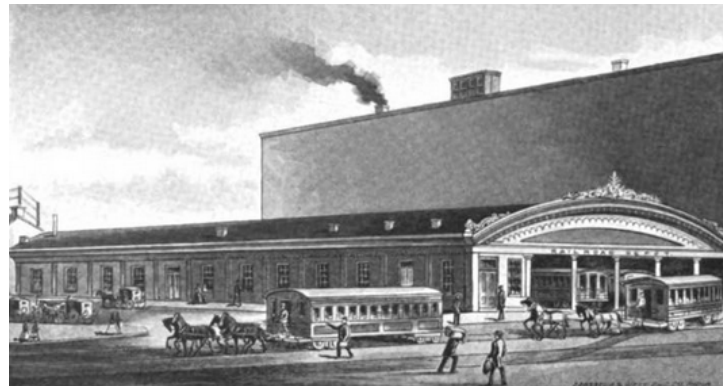
1850-1870



The second Market Street Permanent Bridge, in 1850, widened to accommodate rail cars.

Market Street Bridge

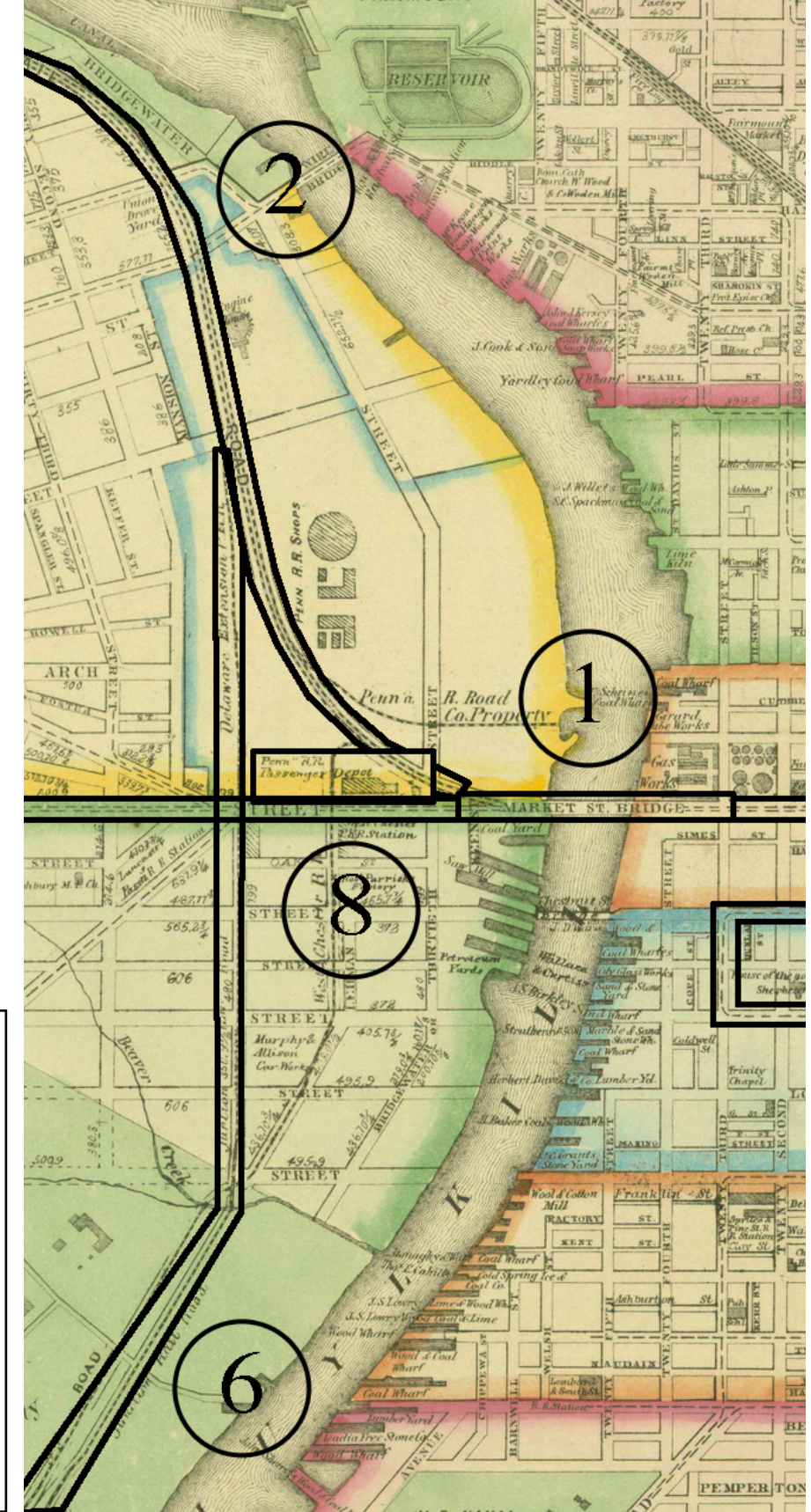
Crossings over the Schuylkill River were of great importance throughout Philadelphia's history. Multiple pontoon and plank bridges spanned Market Street between West Philadelphia and Center City for much of the 18th and 19th centuries, quickly replacing previous bridges after fires or floods. The first permanent bridge at Market Street was constructed in 1805 and lasted until it burned in 1850. The next bridge incorporated rails for the City Railroad to travel over. Multiple wooden bridges followed, all eventually burning down until, in 1888, a new Market Street Permanent Bridge was built out of iron. The current bridge at this location was built out of iron and granite in 1932. Since the first Permanent Bridge over the Schuylkill River at Market Street in 1805, this crossing has been a key factor in the development of the West Philadelphia community, as well as the transfer of passengers on trains and street cars between Center City and the suburbs to the West.



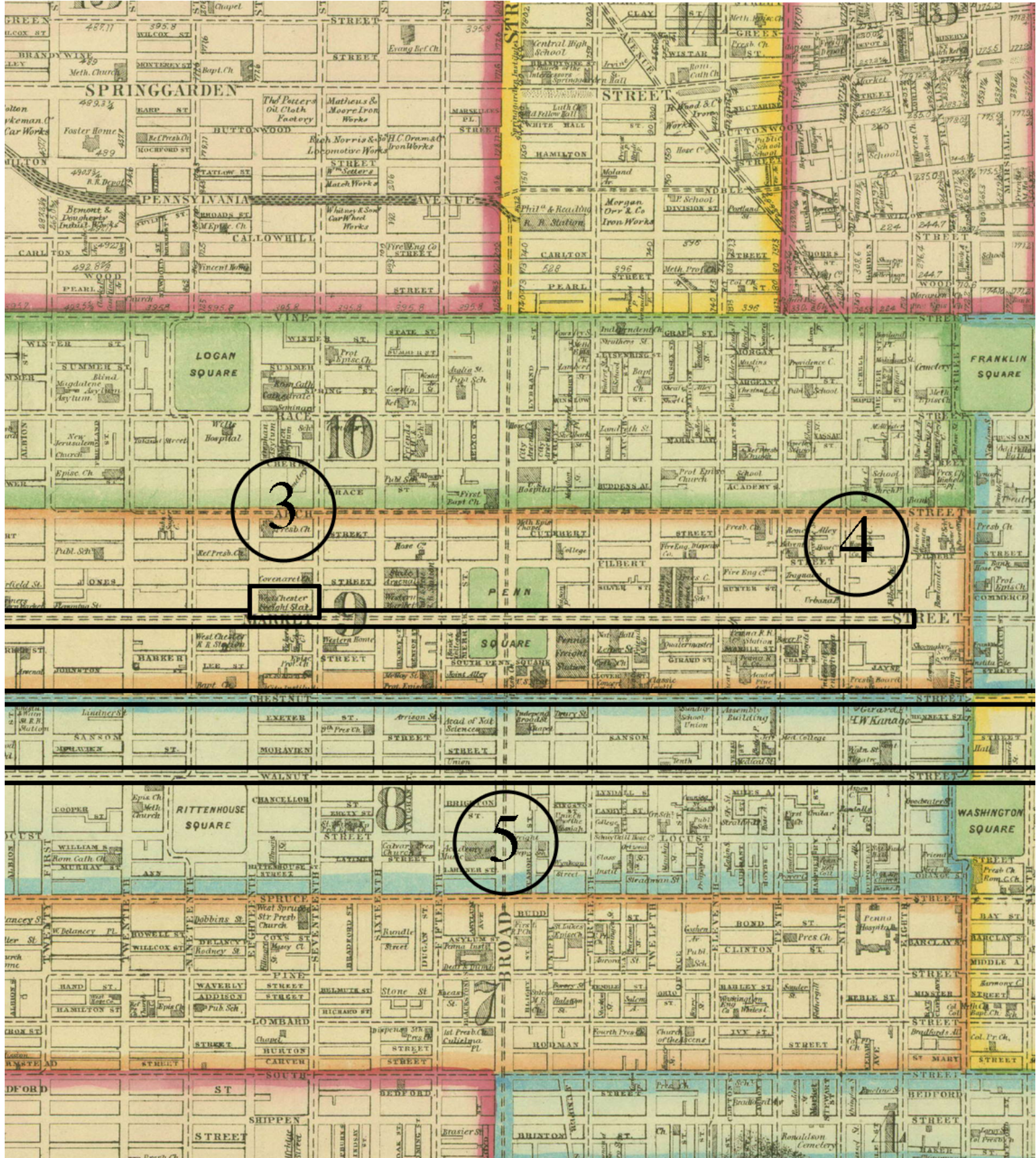
Bingham and Dock's Commonwealth Passenger Station at Eighteenth and Market Streets. Opened in 1852.

Commonwealth Passenger Station

Before individual railroads began to gain power, they often operated out of small buildings or even shared depots. One such depot was the Commonwealth Passenger Station on Eighteenth and Market Streets. Popular transportation company Bingham & Dock built the station in 1852. For a time, almost all of the passenger cars on the Philadelphia and Columbia Railroad used the Commonwealth Passenger Station, including the Pennsylvania Railroad. Before it operated its own depot, the PRR loaded passengers onto its streetcars in the middle of the street. Depots like the Commonwealth Passenger Station provided railroads with facilities for freight and passengers, and often built hotels and taverns to accommodate them. Due to the rapid expansion of the railroad industry, many of the depots in Center City at the time were either repurposed, sold, or abandoned after a few years. In 1854, the Commonwealth Passenger Station was sold to the West Chester & Philadelphia Railroad.



1. Market Street Bridge
2. West Philadelphia Railroad
3. Commonwealth Passenger Station
4. West Philadelphia Passenger Railway
5. Philadelphia City Passenger Railroad
6. Junction Railroad
7. Connecting Railway Bridge
8. West Philadelphia Station



Omnibus service along the West Philadelphia Passenger Railway, created in 1857.

West Philadelphia Passenger Railway

Some contemporary sources call this line the Market Street Passenger Horse Car Railway, and have the West Philadelphia Passenger Railway starting from Forty-First and Haverford Streets and ending in the Haddington neighborhood of West Philadelphia. This era in transportation saw countless streetcar railways emerge for only a few years before being bought out by more successful companies. During the early years of Philadelphia mass transportation, little regulation existed on sharing public space. In 1858, the West Philadelphia Passenger Railway built a track for horse-drawn streetcars from Eighth and Market Streets to Forty-First and Haverford Streets in West Philadelphia. In Center City, the tracks were laid outside of the City Railroad's tracks, in direct competition for customers. The Railway expanded its tracks to Front Street by 1861. In 1876, the West Philadelphia led all city street railways with 15 million passengers carried.

Philadelphia City Passenger Railway

Established in 1859, the Philadelphia City Passenger Railway ran horse-drawn omnibuses from its Front Street depot out to Twenty-First and Chestnut Streets, south to Walnut Street, and then back. In 1866, the Railway was running over the first Chestnut Street Bridge to stables at Forty-First Street. The streetcar lines that crossed the Schuylkill River helped start the growth of deep West Philadelphia into a legitimate community. The West Philadelphia Passenger Railway began to lease the line in 1884, during the early stages of large-scale streetcar railway consolidations.



Horse-drawn carriages of the Philadelphia City Passenger Railway on Third and Chestnut Streets.



This tunnel on the Junction Railroad carried trains under Market and Chestnut Streets along Thirty-Second Street. It still serves SEPTA's Airport, Newark, and Elwyn lines.

Junction Railroad

In the early years of Philadelphia railroads, north-south service required multiple transfers, numerous crossings into downtown, and a series of locomotive reversals. These problems were alleviated with the construction of the Junction Railroad. The Railroad was a line jointly owned and built by the Pennsylvania Railroad, Philadelphia and Reading Railroad, and the Philadelphia, Wilmington, and Baltimore Railroad. It ran south from the Belmont Incline in Fairmount Park through West Philadelphia and ended at Arsenal Bridge in South Philadelphia. Finished in sections from 1860 to 1866, the Junction Railroad allowed non-stop north-south service from New York to Baltimore for the first time. Parts of the line are now operated by CSX Transportation, SEPTA, and Amtrak.

1870-1890



Spirit of Transportation, Karl Bitter. Installed in Broad Street Station's waiting room in 1894, it has been on display in 30th Street Station since 1933.

1870-1890



The headhouse of Broad Street Station, including the 1892 expansion on the left.

Broad Street Station

The end of the 19th century in Philadelphia saw the spread of the business and commercial district into Center City. The current trend, after the consolidation of the previous era's numerous railways into just a handful of powerful corporations, was to migrate back toward the city's center. Construction began on the new City Hall at Center Square in 1871, and the Pennsylvania Railroad completed its Broad Street Station, immediately west of City Hall, by 1881. Broad Street Station was the PRR's premier stop for intercity passengers, commuters, connections to trolley lines and, eventually, two future subway systems. In 1892, The Railroad commissioned architect Frank Furness to expand the main building, increase the number of tracks, and construct what was, up to that point, the largest single-span train shed ever built. A stub-end terminal, exiting the station required a series of time-consuming maneuvers to turn the locomotive around, causing constant congestion and delays. This problem was not alleviated until electrification of the rails in the 1930s.

The four-story Gothic facade housed the Railroad's corporate offices, while the station itself boasted comfortable passenger amenities, like a confectionery store, newsstand, barber shop, restaurant, and a separate ladies' waiting room. Train facilities were separated from passenger facilities, which were clean and accommodating in contrast to the dangerous, smoke-filled platforms. The station marked a drastic change from the sparse, wooden train sheds with floor-level tracks frequently traversed by passengers, sometimes with fatal results. Broad Street Station ushered in an era of opulent passenger complexes, built for comfort and efficiency, and meant to inspire confidence in the company itself. This model would be emulated by the PRR's rivals, as the Reading and B&O would build their own grand stations before the century was out.



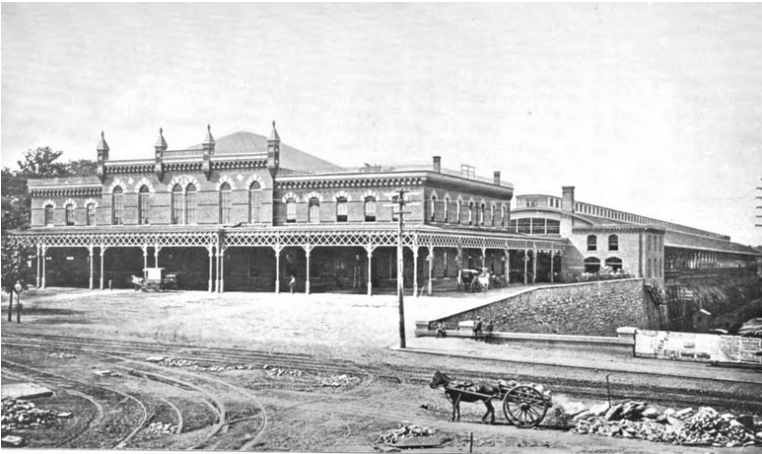
The Filbert Street Extension, or “Chinese Wall,” connected Broad Street Station and the passenger depots of West Philadelphia. It hampered business and real estate development for decades.

The Chinese Wall

The Pennsylvania Railroad’s decision to move passenger service back into Center City via Broad Street Station required a way to get trains over the Schuylkill River. The Filbert Street Extension was a two-story stone viaduct that stretched from the Broad Street Station headhouse at Fifteenth Street to the Schuylkill River, three-quarters of a mile away. From there, three train bridges crossed the River and headed toward West Philadelphia’s 32nd Street Station. Disparagingly known as the “Chinese Wall,” the viaduct cut the western portion of Center City in half. Pedestrians resisted using the tunnels over the north-south streets, as they were dark, wet, and filled with waste. The viaduct discouraged development north of Market Street for decades, and occupied valuable real estate until its demolition in the 1950s.

Centennial Station

Philadelphia hosted the Centennial Exhibition of 1876 in Fairmount Park, showcasing America’s progress in the last hundred years with new inventions, architecture, and displays from cultures around the world. The Pennsylvania Railroad showcased its power by constructing a passenger depot on the grounds that received trains from West Philadelphia, Pittsburgh, New York, and Baltimore. A new West Philadelphia Station, commonly known as “Centennial Station,” was built at 32nd and Market Streets in the months before the Exhibition to handle the influx of visitors to the city. The new station handled over 2 million passengers in the summer of 1876, the greatest railroad volume the United States had seen yet. The building was destroyed by fire in 1896 and replaced by another West Philadelphia Station in 1903.



The opulent Centennial Station of the PRR, opened in 1876 for the Centennial Exhibition. This station at Thirty-Second and Market Streets burned down in 1896.

1870-1890



Looking north from the Market Street Bridge, the Baltimore and Philadelphia Railroad gave the Be&O its own route through Philadelphia. The Philadelphia Museum of Art can be seen in the background.

Baltimore and Philadelphia Railroad

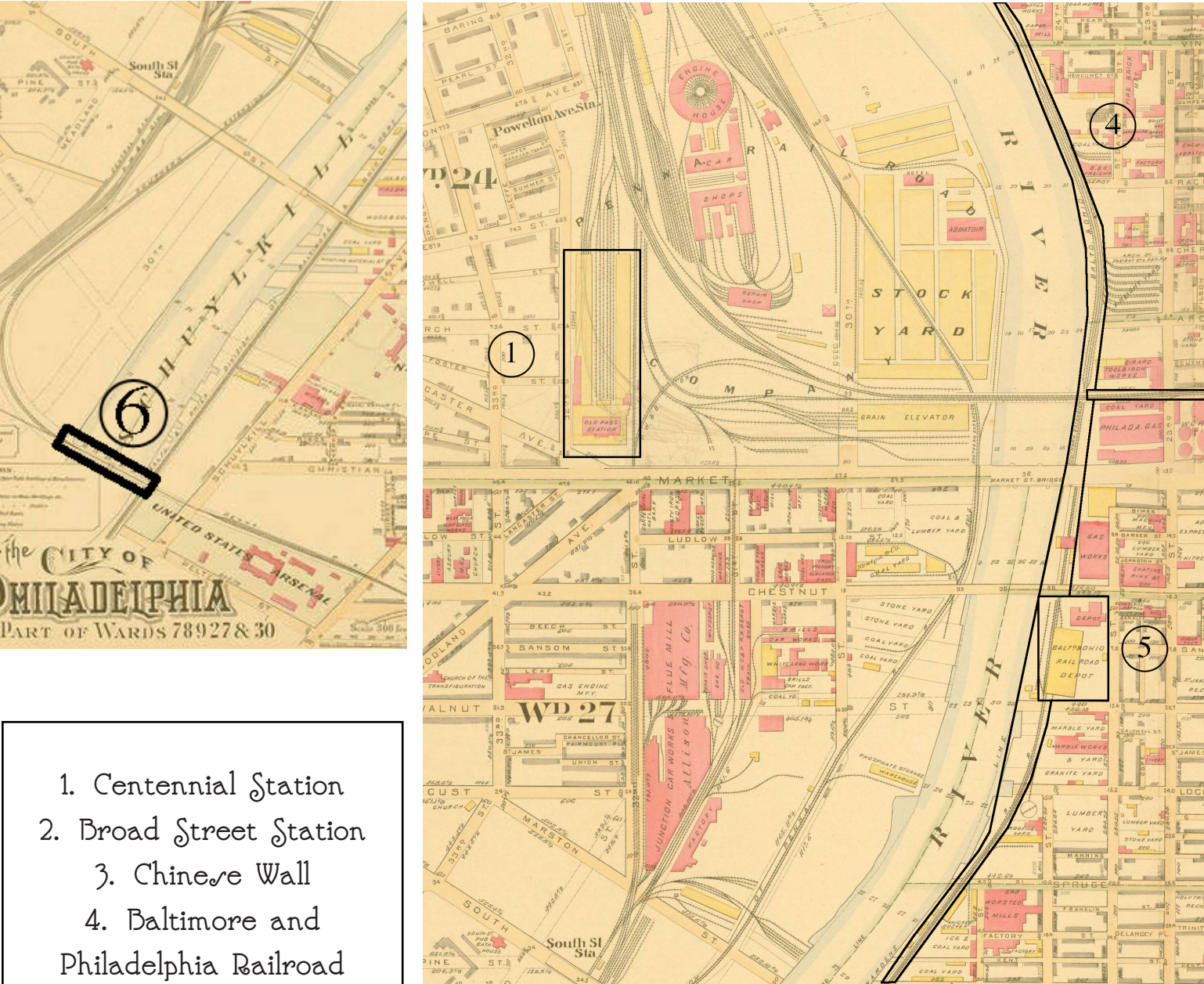
Prior to 1881, the Baltimore & Ohio Railroad and Pennsylvania Railroad shared the main line from Baltimore to Philadelphia, owned by the Philadelphia, Wilmington and Baltimore Railroad. Competition for control resulted in the PRR purchasing the PW&B in 1881 and denying the B&O rights to use it. The B&O completed its Baltimore and Philadelphia Railroad in 1886, which stretched from Baltimore in the south to the Reading’s lines to New York near the future site of the Philadelphia Museum of Art. This line, located on the east side of the Schuylkill River, allowed the B&O to bypass the Junction Railroad, which frequently delayed B&O trains on account of its ownership by the PRR. The Reading acquired trackage rights over the Baltimore and Philadelphia Railroad, allowing it, too, to bypass the Junction Railroad. This line is currently operated by CSX Transportation as part of its Philadelphia Subdivision.

24th Street Station

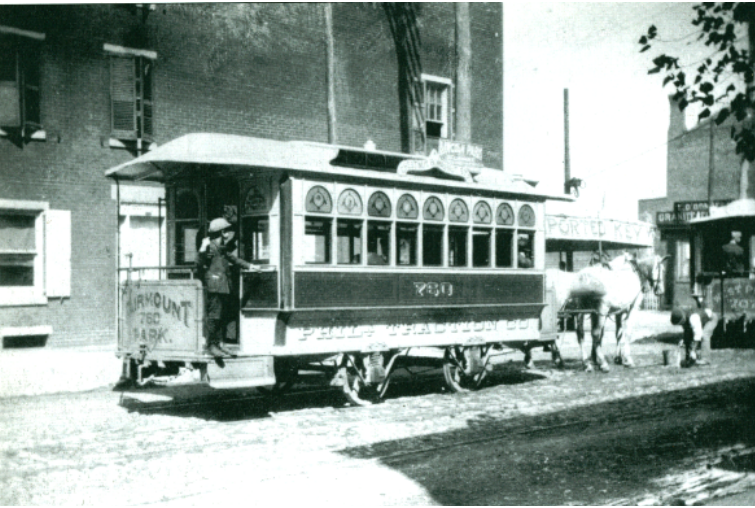
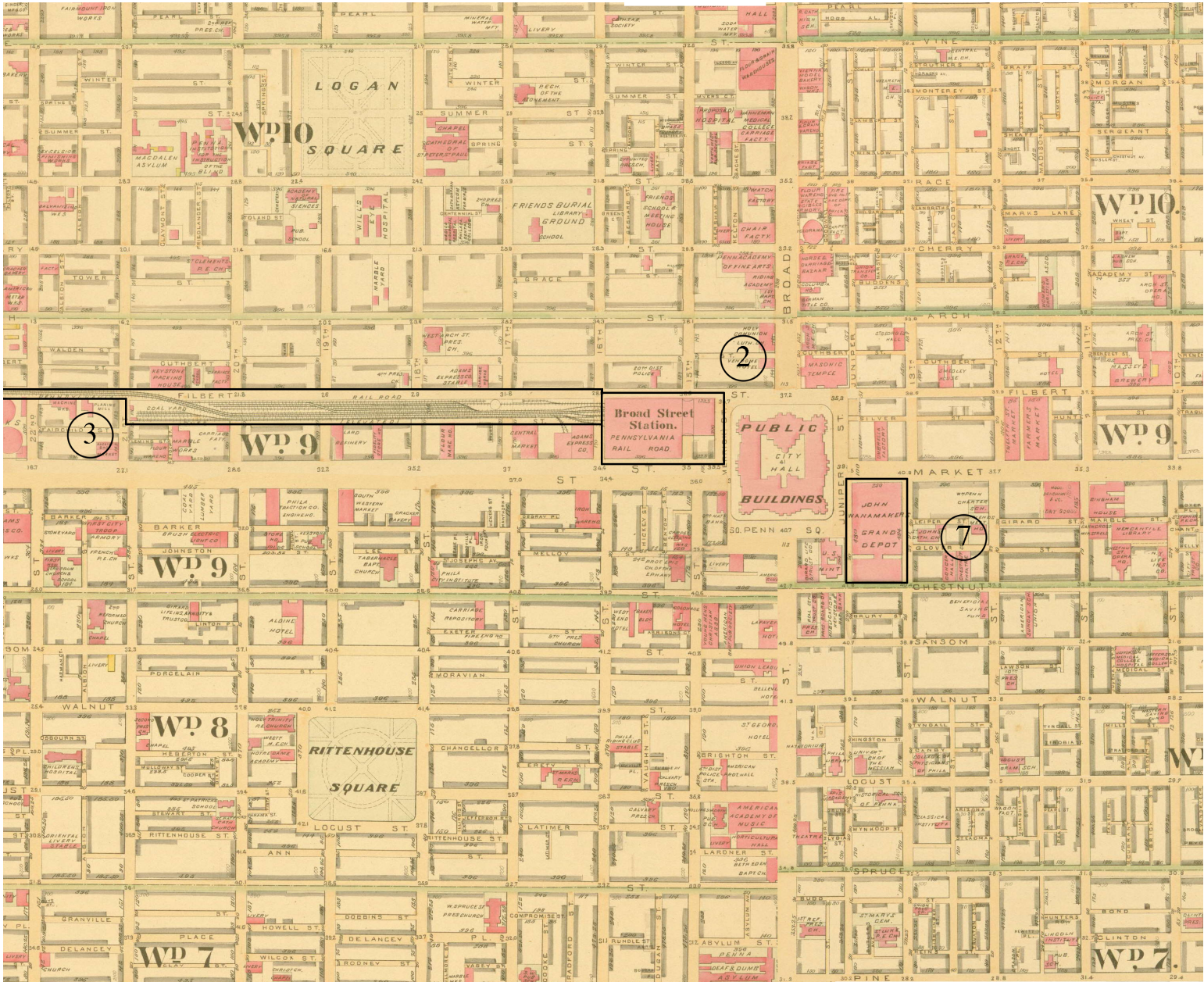
After building the Baltimore and Philadelphia Railroad, the Baltimore & Ohio Railroad finally established its own passenger station in Philadelphia in 1888. At a time when the PRR and Reading were moving their terminals into the city’s center, the B&O placed its terminal along the eastern banks of the Schuylkill River. Designed by Philadelphia architect Frank Furness, the two-story building at 24th and Chestnut Streets was smaller than its competitors’, but still provided for a comfortable and accommodating terminal between Baltimore and New York. The B&O ceased passenger operations north of Baltimore in 1958, and the station was demolished in 1963.



Baltimore & Ohio’s 24th Street Station on Chestnut Street. Opened in 1888, designed by Frank Furness.



- 1. Centennial Station
- 2. Broad Street Station
- 3. Chinese Wall
- 4. Baltimore and Philadelphia Railroad
- 5. B&O 24th Street Station
- 6. Arsenal Bridge
- 7. Thirteenth and Market Depot



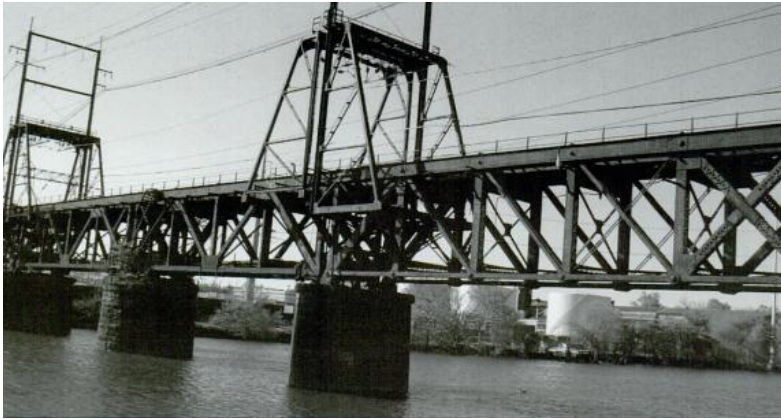
A typical horse-drawn omnibus of the Philadelphia Traction Company, part of the Union Traction Company from 1895 to 1902.

Union Traction Company

The mid-1800s saw the creation of dozens of independently owned streetcar companies that traversed most of the Philadelphia area's major roadways. High costs for technological improvements like electric trolleys and cable cars, combined with competition for customers, drove numerous acquisitions and leases between companies. Seventeen companies controlled all of the city's lines in 1876. By 1893, three streetcar railway companies, the People's Traction, Philadelphia Traction, and Electric Traction, absorbed the remaining lines. Their owners recognized the inefficiency of operating three separate lines over many of the same tracks, with far too much equipment and a redundancy of administrative officials. Legislation in 1895 that essentially legalized the monopolization of Philadelphia transit was the final push needed for the new Union Traction Company. That same year, the UTC leased the three remaining companies, and a few small independent lines, bringing the entire street railway system in Philadelphia under consolidated control.

Schuylkill Arsenal Railroad Bridge

With the desire to extend its lines to the ports of the Delaware River without having to ship freight over the City Railroad, the Pennsylvania Railroad authorized the Delaware Extension in 1859. The PRR built its own bridge over the Schuylkill River near the site of the famous Schuylkill Arsenal. Opened in 1862, the Schuylkill Arsenal Railroad Bridge connected with the in-progress Junction Railroad on the western banks of the River with the Philadelphia, Wilmington, and Baltimore line on the eastern banks. From the PW&B line, the PRR acquired trackage rights to transport its freight cars over the Southwark Railroad to the Delaware waterfront. The Bridge also gave the PRR access to South Philadelphia industrial complexes. It was replaced in 1886 with a new bridge that still functions as CSX Transportation's link to the Greenwich Yard in South Philadelphia.



The Schuylkill Arsenal Railroad Bridge gave the PRR access to the Delaware River. The 1886 bridge is currently part of CSX Transportation's Harrisburg Subdivision.



The PRR quickly outgrew its depot at Thirteenth and Market Streets. It became John Wanamaker's "Grand Depot" in 1876.

Thirteenth and Market Freight Depot

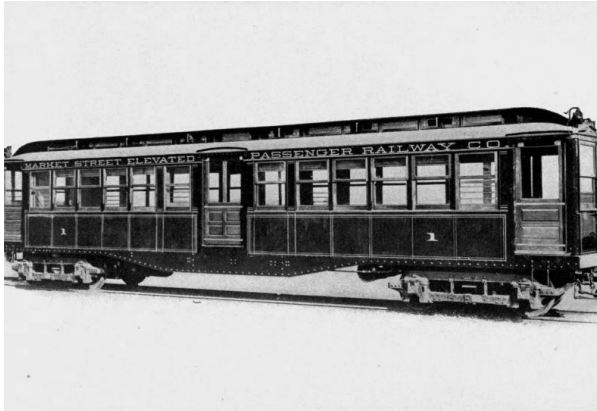
As freight service began to increase along its routes, the Pennsylvania Railroad sought to expand to a bigger and more convenient depot. The PRR abandoned its station at Eleventh and Market Streets and built a brand-new freight house at Thirteenth and Market Streets in 1854. Freight cars were able to travel along the City Railroad on Market Street, turn south on Broad Street, and turn east again to unload on a freight platform. In the past, the PRR relied upon freight facilities operated by separate companies, or leased buildings vacated by other railroads. The new depot signaled its growing influence in the city, only a few short years before the PRR purchased the Main Line of Public Works. The PRR used the depot until 1874. In 1876, businessman John Wanamaker opened his first department store inside the abandoned freight station. His "Grand Depot" helped to move the business and commercial districts westward into the geographic center of the city, a shift that influenced the PRR's placement of its 1881 Broad Street Station just two blocks away. By 1910, Wanamaker had replaced the old depot in stages, making way for the Wanamaker Building that still stands in Center City as a Macy's.

1890-1910

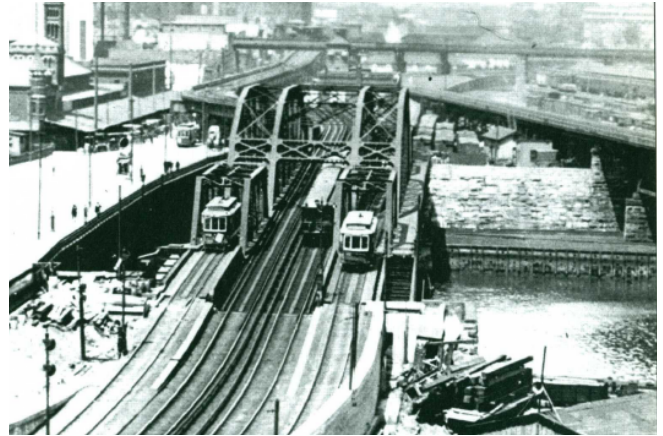
“I checked my bag at Reading Terminal and suddenly felt like false pretenses. I wondered if anybody had ever done anything dishonest before at Reading Terminal, it always seems like such a well-behaved train station.”

- Christopher Morley's Kitty Foyle

1890-1910



Market Street Subway-Elevated car number 1, built by the Pressed Steel Car Company of Pittsburgh in 1906.



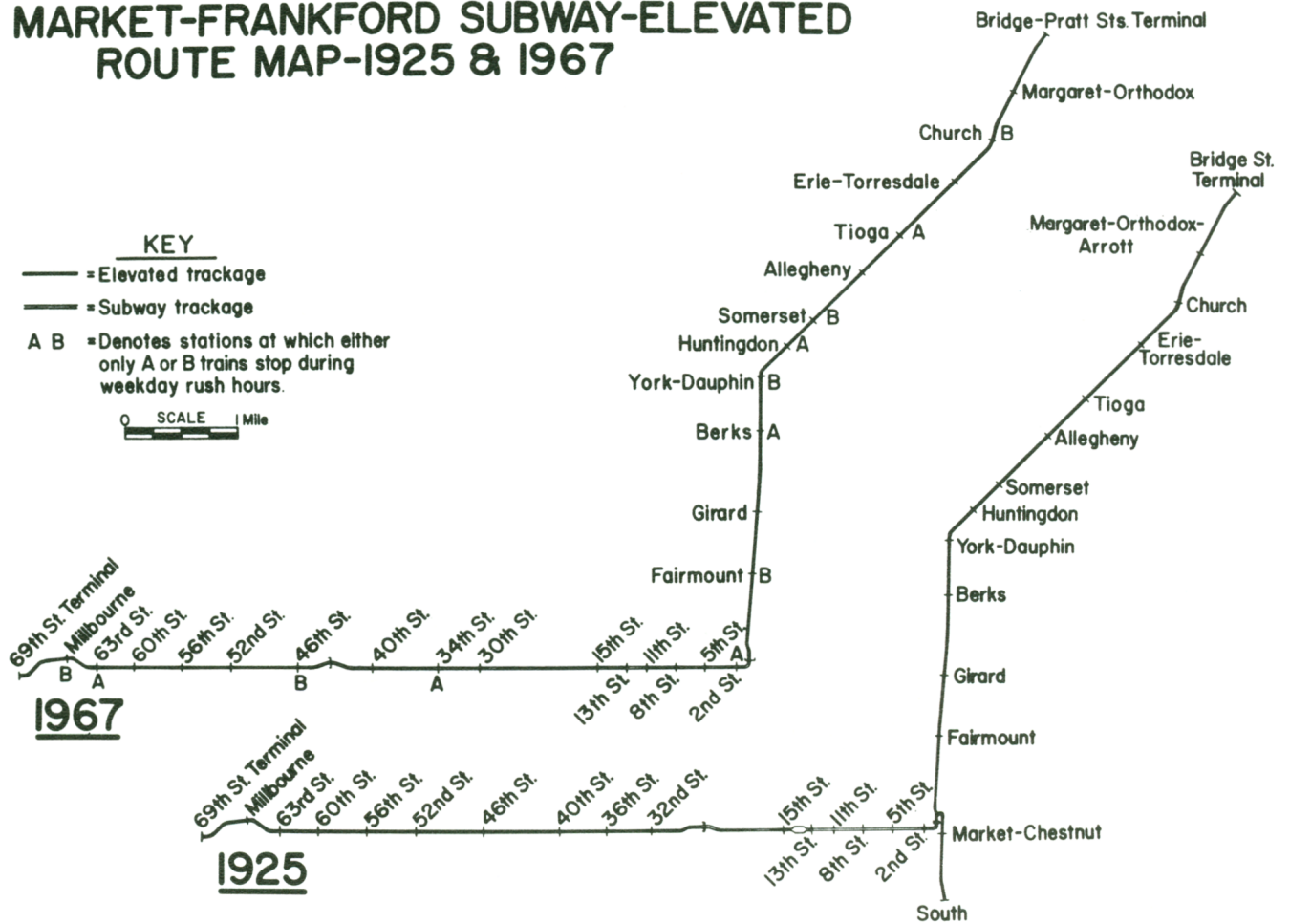
The Market Street Line's dedicated rail bridge over the Schuylkill River. Built in 1907, it carried trolleys on the outside and subway-elevated cars on the inside. It was demolished in 1955 when the Market Street Line began using the tunnel to Forty-Sixth Street.

Market Street Subway-Elevated Line

Incorporated in 1901 to operate rapid transit trains in Philadelphia, the Market Street Elevated Passenger Railway Company did not become active until it was leased by the Philadelphia Rapid Transit Company in 1903. That same year, the PRT obtained approval from the city to build an elevated railway on Market Street west of the Schuylkill River, and an underground subway east of the River, so as not to interfere with the Pennsylvania Railroad's Chinese Wall just north of Market Street. To handle the subway and trolley traffic over the River, a four-track truss bridge was constructed one-hundred feet north of the Market Street Bridge. The line was completed in 1907, with underground subway cars running from City Hall to the Schuylkill River, where they resurfaced at Twenty-Third and Market Streets, crossed the train bridge, and continued on as an elevated line to Sixty-Ninth Street. The subway was extended to the Delaware River piers in 1908 and north to Frankford by 1922. It then became known as the Market-Frankford Subway-Elevated Line.

Because of increased street volume after World War I, the city and the PRT decided to extend the subway from Twenty-Second Street to Fortieth Street, and demolished the elevated along this length. After Fortieth Street Station, the new subway emerged and connected with the elevated line at the Forty-Sixth Street Station. A tunnel under the Schuylkill River commenced in 1930, but it sat dormant for decades due to the onset of the Great Depression followed by the start of World War II. Finally, the new Market Street Subway-Elevated Line opened in 1955, twenty-five years after the revitalization project had started. The broad gauge of the track remains a vestige from the days of the streetcar, while the Broad Street Subway Line and commuter rail lines both use the standard gauge. The Market Street line was instrumental in the development of West Philadelphia. What started as a quiet farm town with corn fields exploded into a busy commercial and residential city section with almost half a million people by 1930. The line attracted new businesses, wealthy business owners, and those looking for cheap apartments close to Market Street. Today, it remains the busiest of all passenger services in the Philadelphia transportation system.

MARKET-FRANKFORD SUBWAY-ELEVATED ROUTE MAP-1925 & 1967

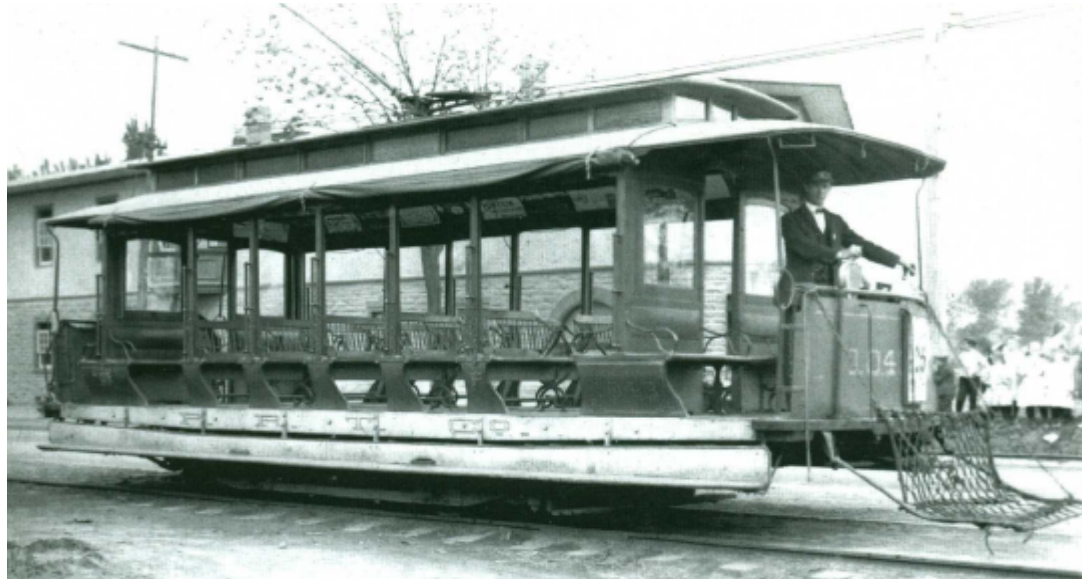




The Reading Terminal headhouse at the corner of Twelfth and Market Streets. Built in 1893.

Reading Terminal

Just like the PRR, the Philadelphia and Reading Railroad recognized the trend of centralization in the late 19th century. In 1893, the Reading closed its main depot at Ninth and Green Streets, as well as a depot at Broad and Callowhill, and began operating out of its new terminal at 12th and Market streets. The Italian Renaissance style headhouse fronted what was the largest train shed in the country until Broad Street Station was updated less than a year later. In direct competition with the Pennsylvania Railroad, the Reading had an advantage in that it did not operate through trains like the PRR, and therefore the Terminal's similar stub-end design did not prove to be as problematic. The platforms themselves were built one story above a popular farmers market, which has been operating continuously since the 1860s. A victim of declining railroad revenue after World War II, the Reading Company handed all passenger operations, including use of the Terminal, over to SEPTA in 1976.

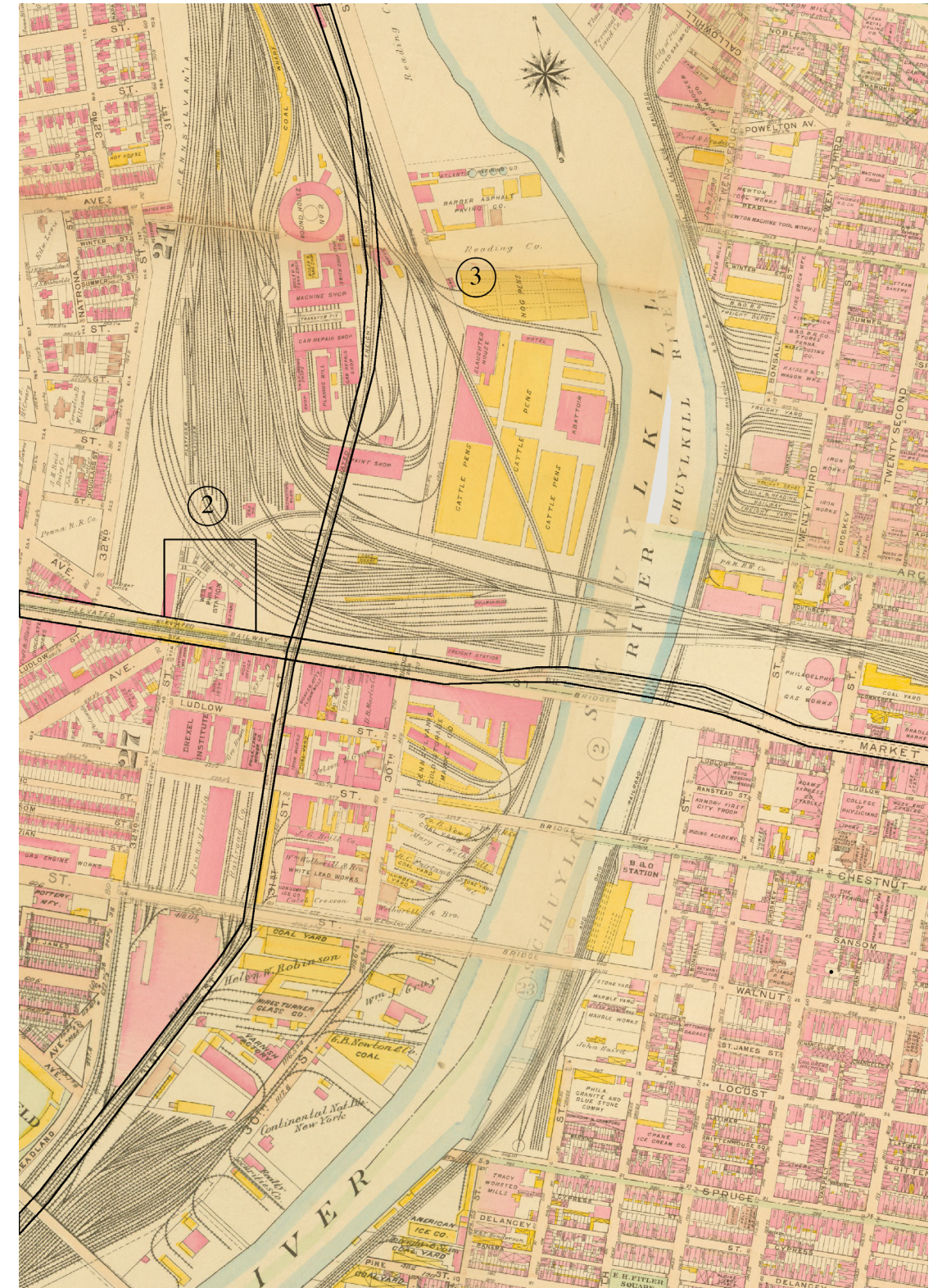


An electric streetcar of the PRT, which took over the Union Traction Company in 1902.

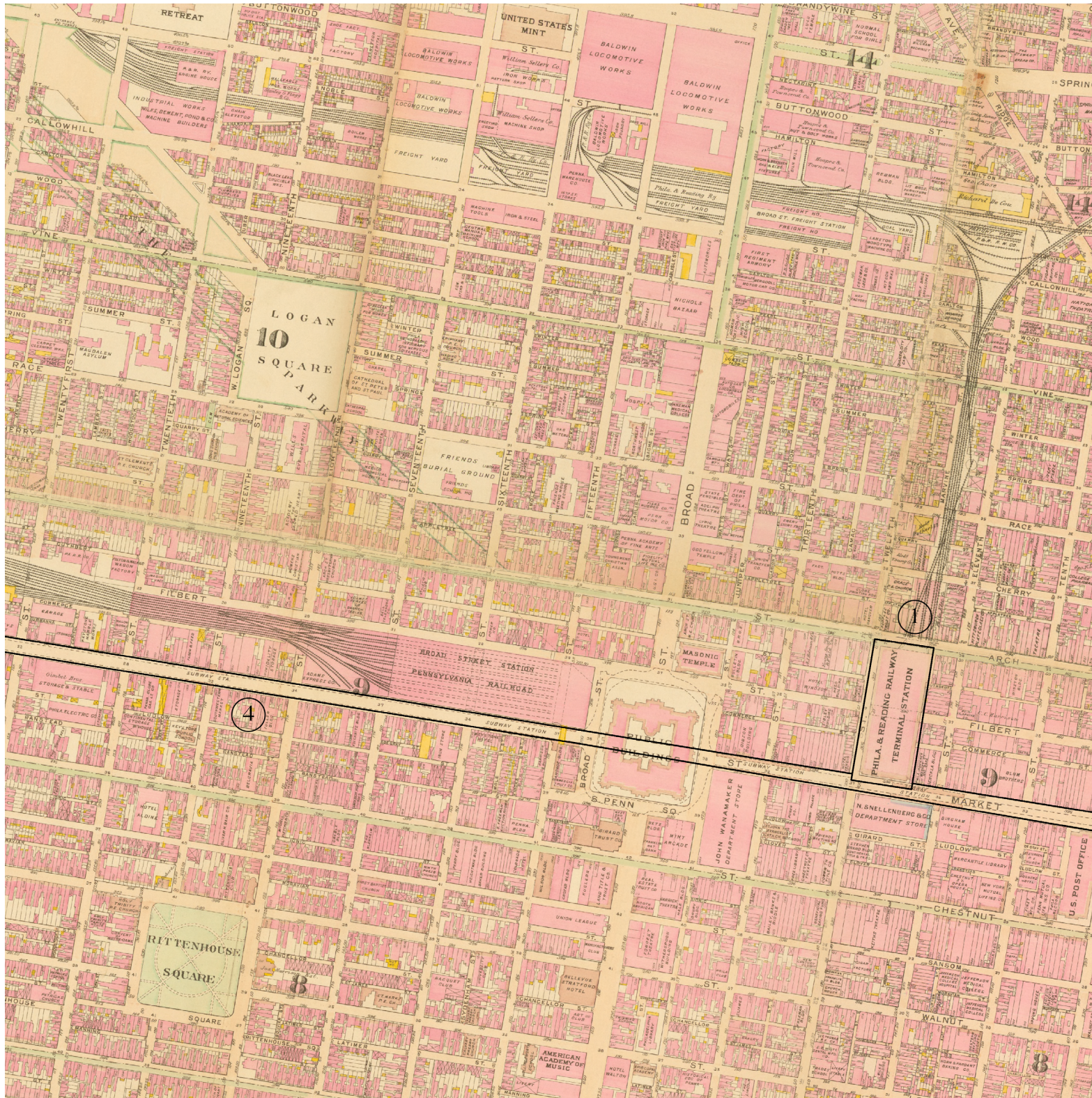
Philadelphia Rapid Transit Company

The problem of the constant street congestion finally found a solution in 1901, when the City passed rapid transit legislation allowing for the construction of subways and elevated lines. The Union Traction Company was reorganized in 1902 into the Philadelphia Rapid Transit Company, along with several other lines that had not been absorbed into the UTC since 1895. The PRT immediately drew up plans for a subway under Market Street, and other street surface lines, which were started in 1903. The history of the PRT was fraught with customer dissatisfaction over fare increases, violent wage strikes by workers, mismanagement of capital, and the threat of bankruptcy. The PRT became the Philadelphia Transportation Company in 1940, which was the predecessor of SEPTA.

1890-1910



1. Reading Terminal
2. West Philadelphia Station
3. West Philadelphia Elevated
4. Market Street Subway - Elevated Line



The West Philadelphia Elevated line bisects the PRR steam plant and the Penn Coach Yards, now operated by Amtrak. Behind the smoke stack is the former PRR Office Building.

West Philadelphia Elevated Line

The beginning of the 20th century saw the western banks of the Schuylkill River become one of the Pennsylvania Railroad's most heavily trafficked areas, for both freight and passengers. In 1903, the Railroad constructed the West Philadelphia Elevated Line, commonly known as the "High Line," for freight trains to bypass the yards at 30th Street. The two-track brick viaduct stretches from the Arsenal Junction in South Philadelphia to the ZOO Junction in Mantua. At Arsenal, trains either head south toward Baltimore or cross the Schuylkill River toward the freight yards of South Philadelphia. The viaduct crosses over Market Street along 31st Street and parallels the Schuylkill River, and later the Schuylkill Expressway, until it reaches ZOO Junction. Today, the High Line is part of CSX Transportation's Harrisburg Subdivision and has remained a symbol of West Philadelphia for over a century.



A view of West Philadelphia Station at Thirty-Second and Market Streets. Built in 1903, it was replaced by PRR's 30th Street Station thirty years later. The current site is home to a bank.

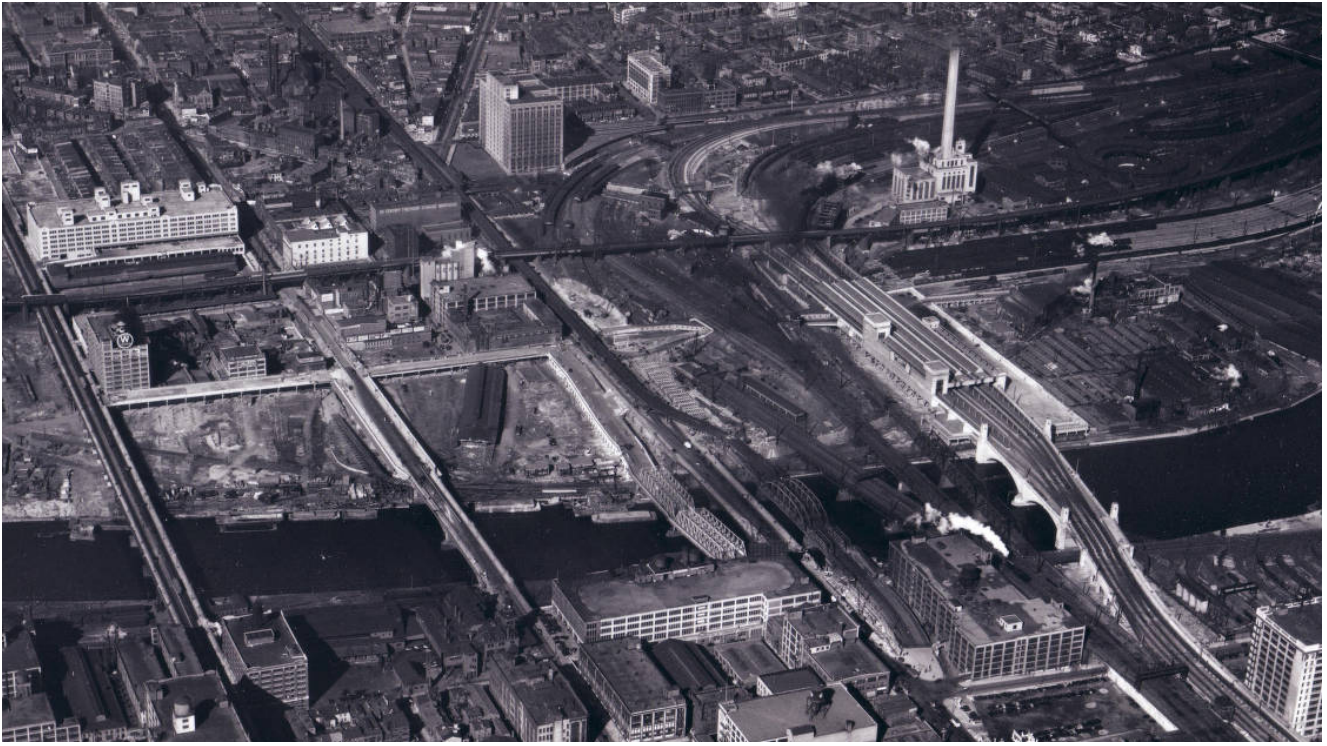
West Philadelphia Station

After the Centennial Station at 32nd and Market was destroyed by fire, all traffic was routed to the new Broad Street Station. To relieve some of that station's congestion and cater to a budding West Philadelphia community, the Pennsylvania Railroad opened a new West Philadelphia Station in 1903 in the center of the 31st and Market block. Most trains continued from here to Broad Street Station, while some were direct through-service trains to New York and Washington, D.C. West Philadelphia Station continued to operate as one of the PRR's most important transfer points in its network until it was replaced by the current 30th Street Station in 1933.

1910-1930



1910–1930



This 1931 aerial survey shows the effects of the Improvements: a new bridge, steam plant, office building, freight building, and the early stages of 30th Street Station.

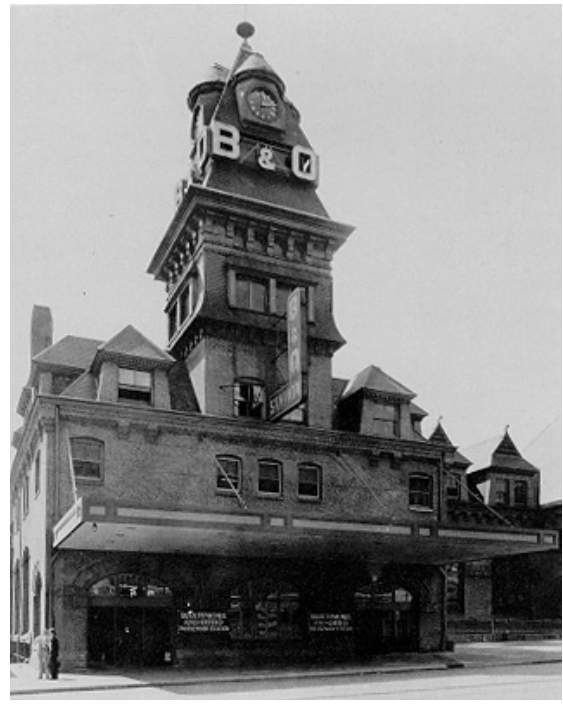
The Philadelphia Improvements

By the 1920s, the Pennsylvania Railroad began to focus on simplification. Decreasing revenues and increasing labor costs spurred the need for more efficient operations. The PRR partnered with the city of Philadelphia in 1925 to begin a massive reorganization project, which combined improving the flow of rail traffic with city beautification. As part of the agreement, the PRR sold property around Broad Street Station, including that of the Chinese Wall, in exchange for tunnel rights north of the Wall from the Schuylkill River to 15th Street. This enabled the construction of the underground commuter network of Suburban Station. The Market Street Elevated became a subway from the Schuylkill River to 46th Street. New buildings were constructed in 1929, including the Freight Building at 31st and Chestnut streets, the Office Building at 32nd and Market streets, and the Penn Coach Yards Power Plant at 30th Street. The new 30th Street Station replaced West Philadelphia Station in 1933, feeding commuter trains into Center City by one bridge over the Schuylkill River, which replaced the three bridges from the Chinese Wall. The City of Philadelphia also built a new Post Office complex immediately south of 30th Street in the early 1930s.

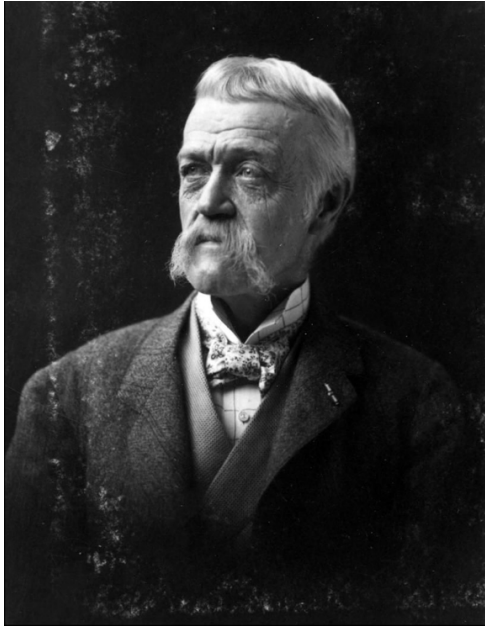
Other parts of the Improvements included new cold storage warehouses in South Philadelphia and the reorganization of various freight facilities and yards in West Philadelphia. Because of the onset of both the Great Depression and World War II, the full scope of the Philadelphia Improvements was not realized until the 1950s. The demolition of the Broad Street Station and the Chinese Wall, both of which finally opened up long sought after real estate north of Market Street, allowed for the development of the Penn Center financial corridor. Finally, the City constructed Pennsylvania Boulevard (renamed John F. Kennedy Boulevard in 1963) on the site of the former Chinese Wall, from City Hall to the Schuylkill River, and eventually all the way to 30th Street Station. Started as a simplification project in the 1920s, the Philadelphia Improvements were the beginning of the final era for the Pennsylvania Railroad. As a project on such a large scale for both the Railroad and the City, the Improvements brought Philadelphia into the modern era, instituting architectural changes that are still seen today.



A view of Furness' 1892 Broad Street Station expansion. Original headhouse is at right.



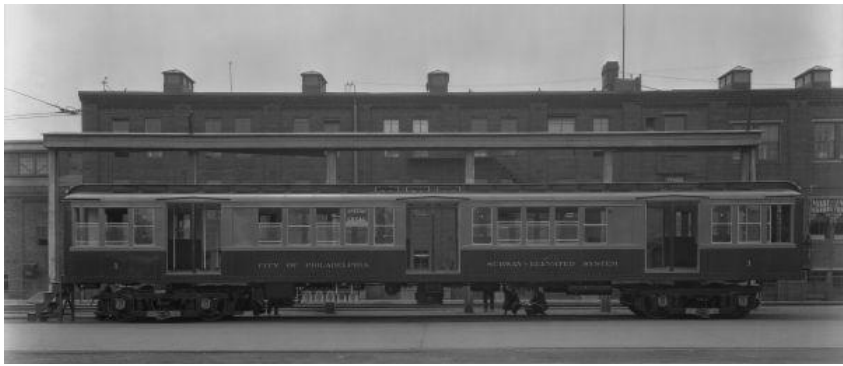
The main entrance of B&O's 24th Street Station.



Frank Furness

Much of the iconic railroad architecture in Philadelphia owes itself to the prolific work of Frank Furness. Born in Philadelphia in 1839, Furness became a renowned Victorian architect, designing over 600 buildings throughout America. Some of his most famous work was for various railroad corporations in Philadelphia. For the Pennsylvania Railroad, Furness enlarged Broad Street Station in 1892. He designed the Arcade Building, an office building across Market Street from Broad Street Station, which was leased by the PRR in 1902, and the 1903 PRR West Philadelphia Station which preceded 30th Street Station. Furness commissioned Karl Bitter to create *The Spirit of Transportation*, a giant bas-relief sculpture first displayed in Broad Street Station in 1895, but now located in 30th Street Station. For the Baltimore & Ohio Railroad, Furness designed the 24th Street Station along the Schuylkill River. He also served as a chief architect on the Philadelphia and Reading Railroad from 1878 to 1884, designing over 100 projects. In total, Furness designed hundreds of stations, office buildings, hotels, residences, locomotives, and passenger cars for the Philadelphia railroads and its executives. His style fell out of favor in the 20th century, and most of his Philadelphia architecture has long since been demolished. Decades after his death in 1912, Furness'

remaining works began being recognized for their unique designs, use of building materials, and their historical relevancy. What remains of his railroad portfolio are a handful of stations along suburban lines outside the city, including the Wilmington Amtrak Station, originally built for the PRR. Several of his most famous works, including the Pennsylvania Academy of the Fine Arts, University of Pennsylvania Library, and the Centennial National Bank, are still being used today.



The first subway car of the Broad Street system. Though pictured here in 1927, the car did not until the subway's official opening the following year.

Broad Street Subway

After the construction of the Market Street subway line, the PRT lacked the finances for any more major construction projects. The two decades that followed saw many different ideas for expanding the public transportation system, including a north-south line along Broad Street. The PRT reached an agreement in the 1920s to operate the line that the City would build. The first section of the Broad Street Subway opened in 1928, from City Hall to Olney Avenue in North Philadelphia. Additions to the line over the next 50 years created the route that is present today, from Fern Rock in the north to Pattison Avenue in the south. The BSS was built with four tracks between the Olney and Walnut-Locust Stations, two for local service and two for express service. An extension to Eighth and Market Streets, known as the 8th-Ridge Street Subway, and later Broad-Ridge Spur, opened in 1932.

The BSS line was built using the standard gauge for railroads, and as such is incompatible with the Market Street Subway-Elevated line. Throughout the years, numerous proposals have been submitted for extensions of the line to the Roosevelt Boulevard, Philadelphia Naval Yard, and even a spur along Walnut Street to Forty-Second Street. Lack of funds for additional expansion have shelved these projects for the time being. The Broad Street Subway, like the Market Street line, was instrumental in the development of the communities around it, including providing access by extending to the South Philadelphia Sports Complex in 1973. Currently, the City still owns the line while the PRT's descendant, SEPTA, operates it.



The PRR Freight Building, taken from Walnut Street. The building currently functions as The Left Bank apartment complex.

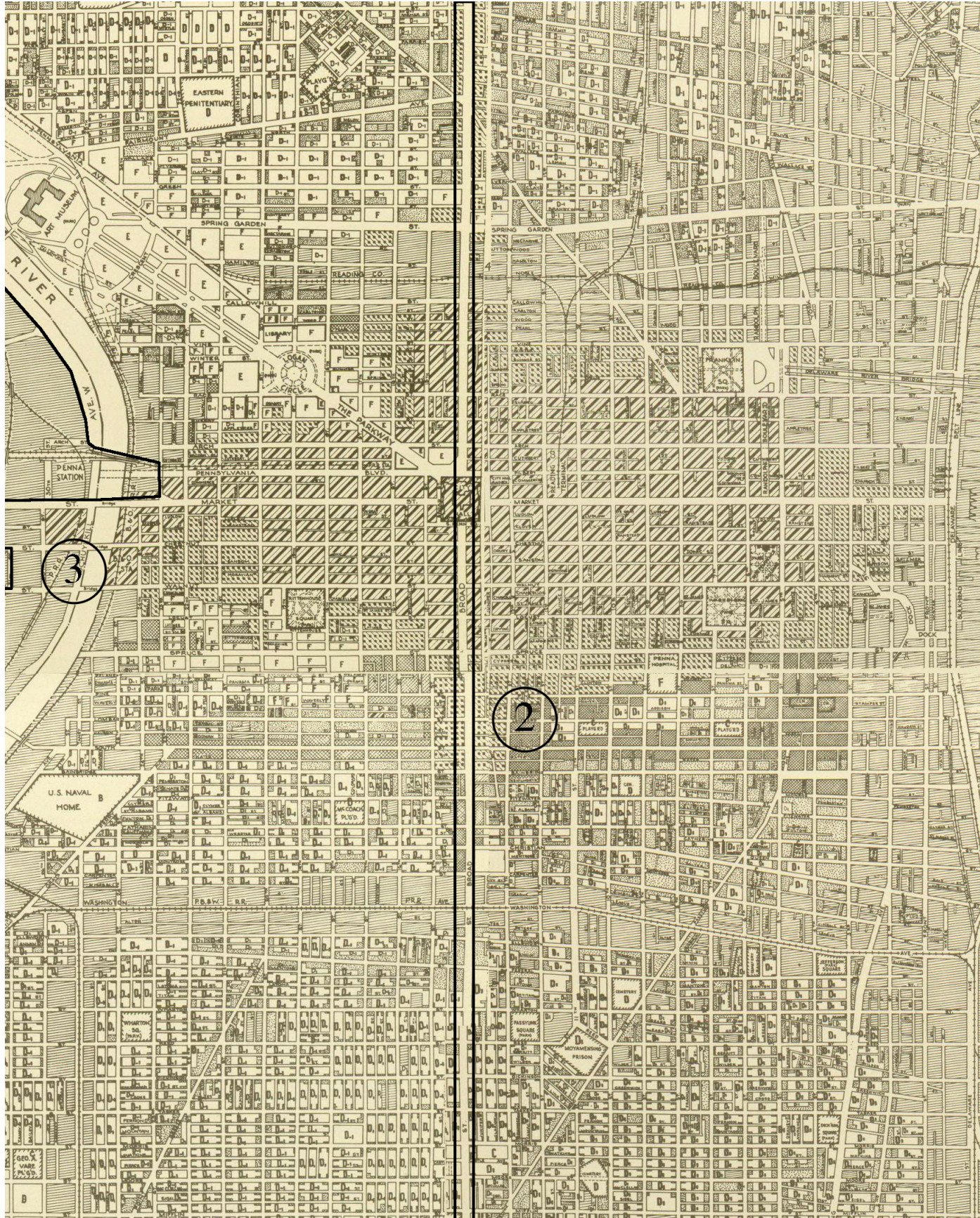
Pennsylvania Railroad Freight Building

The area of land at 31st and Chestnut Streets had long been a center for dairy distribution in southeastern Pennsylvania. The West Chester and Philadelphia Railroad completed its line from West Chester to West Philadelphia in 1858, partially funded by the dairy farms that the line was built through. Despite being primarily a passenger line, the volume of milk and other goods coming into the city necessitated the building of a separate milk depot on the site. The PRR acquired the West Chester and Philadelphia Railroad by 1881, and built a large Merchants Warehouse in the center of the block, with a separate milk depot on the eastern end. As part of the PRR's Philadelphia Improvements Project in 1929, the Pennsylvania Railroad Freight Building was constructed at the western end of 31st and Chestnut, functioning as a freight depot, storage warehouse, sales office, and product showroom. General Electric took control of the building in the 1960s to use as a headquarters for its various space programs. The building's current use is as a luxury apartment complex known as The Left Bank.

1. Main area of Philadelphia Improvements
2. Broad Street Subway
3. Pennsylvania Railroad Freight Building
4. Philadelphia, Wilmington and Baltimore Railroad Bridge No. 1
5. B&O Swing Bridge

1910-1930





A crucial part of the Baltimore and Philadelphia Railroad, this 1910 bridge now carries CSX cars along its Philadelphia Subdivision between Baltimore and South Philadelphia.

Baltimore & Ohio Railroad Bridge

When laying out the Baltimore and Philadelphia Railroad in the 1880s, the Baltimore and Ohio Railroad needed to move the line to the east side of the Schuylkill River, for the Pennsylvania Railroad occupied the route through West Philadelphia. The B&O constructed a bridge in the Grays Ferry section of South Philadelphia in 1886, providing trains a direct route to Jersey City from Baltimore. Two years later, passenger trains would begin stopping at 24th Street Station in Center City, less than two miles north. The Baltimore & Ohio Railroad finally had its own route through Philadelphia, no longer subject to the purposeful delays or bully tactics by the PRR on the Junction Railroad. However, the cost of the line, including the bridge, contributed to the B&O's first bankruptcy. In 1910, the B&O replaced the original bridge with a through truss swing bridge. It is currently part of CSX Transportation's Philadelphia Subdivision.

Philadelphia, Wilmington & Baltimore Bridge No. 1

Since the 17th century, a connection over the Schuylkill River in the Grays Ferry neighborhood of Southwest Philadelphia provided an important route to states south of Pennsylvania. What began as a number of ferries at the site evolved into a series of pontoon bridges starting in 1777, traveled over by British troops during the Revolutionary War and George Washington on the way to his inauguration in 1789. The first bridge designed for railroads opened in 1838. The Philadelphia, Wilmington & Baltimore Railroad's Newkirk Viaduct, a covered bridge named after its president, established the first direct railroad route between Philadelphia and Wilmington. The bridge was so significant that a large, marble obelisk was commissioned to commemorate the achievement. The Newkirk Viaduct Monument still stands nearby, covered in graffiti, inaccessible to pedestrians, and mostly unnoticed. The Viaduct initially permitted horse-drawn trains and road vehicles, but locomotives were prohibited for fear that their sparks would burn the bridge. Released from its obligation to provide highway service over the Schuylkill in 1901, the PW&B opened a one-track, swing span bridge by the end of 1902. The Philadelphia, Wilmington and Baltimore Railroad Bridge No. 1 continued to connect South Philadelphia and its namesake cities until 1976. Upon acquisition by Conrail, the bridge was abandoned in the open position and remains that way today.



This 1901 bridge carried PW&B trains to South Philadelphia. It was left open after Conrail acquired it in 1976.

1930-1950

Elegy in a Railroad Station (Obit for Broad Street, Philadelphia)

I've always been in love with railroad stations:
By no means least of man's superb creations.
Particularly I rate high
Old London termini,
Liverpool Street (cathedral of catarrh)
Where antique bathtubs in the cellar are:
And you may know
Altars of the great gods To and Fro
At Paddington, Euston, King's Cross, Gare du
Nord,
La Salle Street in Chicago, Windsor Montreal,
The Lackawanna on Hoboken shore,
The B & O beloved Mount Royal, Baltimore.
Even little Roslyn, on fish-shaped Paumanok,
Where the Long Island falters, still in hock—
Too many I love, to list, but of them all
None ever gave me quite such sublimation
As Broad Street Station.
Maybe tops of all I rank it
Because it was there, by jeepers,
Walt climbed aboard the Pullman Palace
Sleepers
And tucked his noble beard outside the blanket.

I repeat your glory. Broad Street Station!
The proper shrine, the true Main Line,
Of Immortality the Intimation;
Such offsteam blowing,
Such bells, and hells of coming and going.
Suburban cowcatchers' dainty snouts.

Beautiful barytone All abooaard shouts.
Drive wheels, and firebox glowing.
Nothing was so holy as the Local to Paoli
(15 and 45) when we were youngalive
For Wynnewood, Ardmore, Haverford, Bryn
Mawr
Or anywhere along the P.R.R.
Then, as child, boy, student, family man,
We were too self-occupied to scan
That gigantic arch of joys and pains
When trains were really trains.

There beneath tall wheels, fierce jets of steam,
We guessed the bulk and power of a dream;
To shorten space and anguish to appease
The engine rests at crouch and purrs at ease.
People cry God bless you's and So long's,
Gates contract or widen like lazy-tongs—
Goodbye, Goodbye! No wonder I
Preserve in pure imagination
My memory of Broad Street Station.

- Christopher Morley, 1952

1930-1950



After the electrification of the railroads, substations, like this one at Zoo Junction, powered trains on the route through catenary lines.

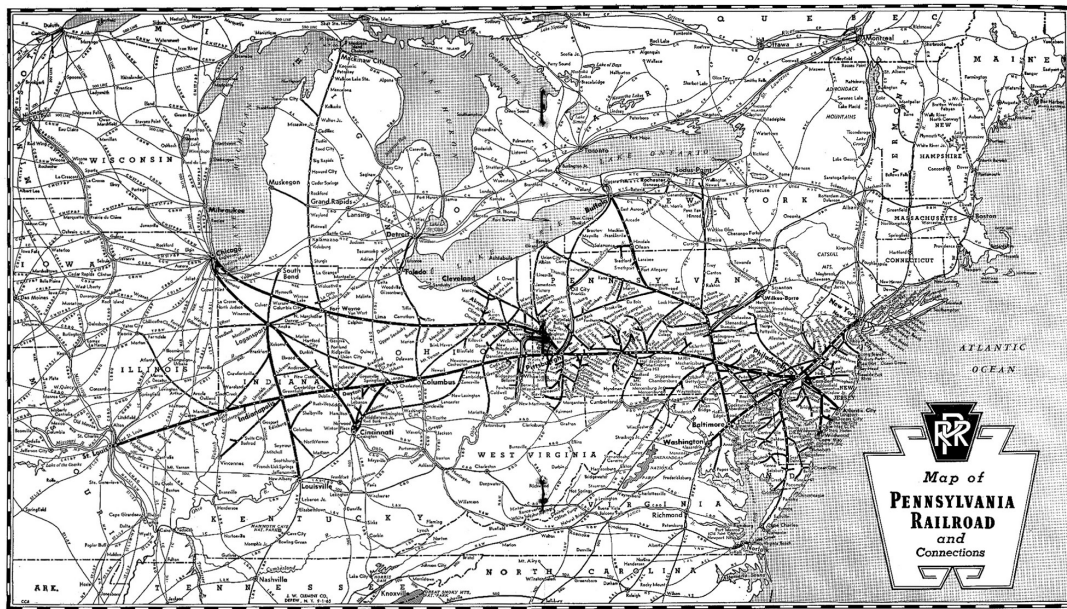
Electrification of the Railroad

By the beginning of the 20th century, most of the railroad infrastructure in Philadelphia was already established. Rail lines, bridges, stations, locomotives, and passenger cars were busy transporting millions of suburban commuters, intercity travelers, and freight shipments through Philadelphia to areas in all directions. The consolidation of numerous railroads operating in the city left only a handful of companies to handle the traffic. The Pennsylvania Railroad sought to further capitalize on the growing market by electrifying portions of its lines. Electrification looked to solve a number of problems the PRR and other railroads had been encountering for years.

In Philadelphia, the PRR finally began to submit to public demands by phasing out the behemoth Broad Street Station, which by then had lost favor in the eyes of most Philadelphians for filling busy Center City with smoke and noise. They also wanted to be rid of the separation and developmental stagnancy caused by the Chinese Wall. By electrifying the system, the congestion at Broad Street Station would be greatly reduced. Unlike steam locomotives, electric units possessed the ability to run efficiently in both directions, eliminating the need for time-consuming turnarounds. The superior acceleration of electric locomotives promised to improve time in and out of the station, as well as shorten route schedules overall. From 1915 to 1930, the PRR electrified five suburban commuter lines, starting with its Main Line service from Philadelphia to Paoli. With the introduction of the Philadelphia Improvements Project in the mid-1920s, the PRR proposed to further reduce the use of Broad Street Station.

Under the Philadelphia Improvements plan, two new stations would assume the responsibilities of Broad Street Station. Broad Street Suburban Station would become the primary terminal for commuter services in the area, while 30th Street Station would function as an important through-hub for intercity traffic. The proposal of the underground Suburban Station required the use of electrified locomotives through the tunnels on the east side of the Schuylkill River. The intercity through-trains under the new 30th Street Station would have required massive fans for ventilation, the tedious positioning of each locomotive at the edge of the lower levels, or electric switching trains before and after entering the underground section. The best solution for all of these issues was the electrification of the main routes through the city. Long-distance electric service opened on the Northeast Corridor route to Wilmington in 1928, Trenton in 1930, New York in 1933, and Washington, D.C. in 1935. New Deal legislation in 1934 also enabled the PRR to electrify several freight-only routes near Philadelphia.

Although the electrification of parts of the PRR's vast network improved performance and lowered running costs, the entire project was also partially in response to the growing popularity of alternative transportation. The highway system had drawn much of the freight and passenger traffic to trucking and automobiles. The budding airplane industry also attracted long-distance travelers desiring greater speed and efficiency. The only other dominant railroad in the city, the Philadelphia and Reading, didn't electrify its suburban lines until 1931, far too late to stave off its own inevitable demise. The electrification of 30th Street and Suburban stations relieved much of the previous congestion and noise of Broad Street Station. Arguably the most significant long-term railroad project in early 20th century Philadelphia, electrification established the current system still in use by Amtrak and local railroads between New York and Washington, D.C., as well as regional routes operated by SEPTA.



The main lines of the PRR from New York to St. Louis



The PRR's GG 1 entered service in 1935 and became the most widely recognized electric locomotive.

The Standard Railroad of the World

For most of its 122-year existence, the Pennsylvania Railroad set the standard for all other railroads to live up to. It was only fitting, then, that the Railroad adopted “The Standard Railroad of the World” as its official motto in 1916. The PRR established its superiority in the railroad industry through its equipment, policy, and performance. While other railroads purchased their locomotives, the PRR designed and built its own units at the Altoona shops in western Pennsylvania. It often employed a small number of reliable models, whereas other railroads would piecemeal their fleets together. It standardized its paint schemes, using the Brunswick Green on locomotives and the famous Tuscan Red on passenger cars and some later electric and diesel locomotives. The Altoona shops tested new lubricating oils, safety mechanisms, and materials to make stronger rails. Precise train schedules over long distances helped usher in the use of standardized time. The PRR grew to become the largest railroad in traffic and revenue by World War II. It provided hundreds of thousands of jobs, offered employee benefits and incentives before the practice became widespread, and was governed by a rigid hierarchy of men who were experts in engineering and understood the importance of political influence. For over a century, the Pennsylvania Railroad dominated an industry of independent companies by not only standardizing its operations, but creating the model that the rest of the industry aspired to, but could never achieve.



Built as part of the Philadelphia Improvements, this bridge carries trains into 30th Street Station.

SEPTA Schuylkill River Bridge

The Philadelphia Improvements Project, started in the late 1920s, called for the replacement of the Broad Street Station with the 30th Street Station on the western banks of the Schuylkill River. With the proposed separation of intercity and commuter tracks, the Pennsylvania Railroad no longer required three bridges over the River. The bridges, which ran through the future site of 30th Street Station, were to be demolished in favor of one bridge just north of their current site. The new bridge, completed in the early 1930s, connected the north side commuter rail platforms of 30th Street Station with the underground terminal platforms of Suburban Station. The consolidation of three bridges into one allowed for the construction of the Pennsylvania Boulevard, later JFK, that led to the entrance of 30th Street Station. Until the Chinese Wall was demolished in the 1950s, the new bridge also connected with tracks leading into Broad Street Station for the few intercity services that still used it. Today, SEPTA exclusively operates over the bridge as part of its Regional Rail service, allowing every line in its system a connection between 30th Street Station and Suburban Station.

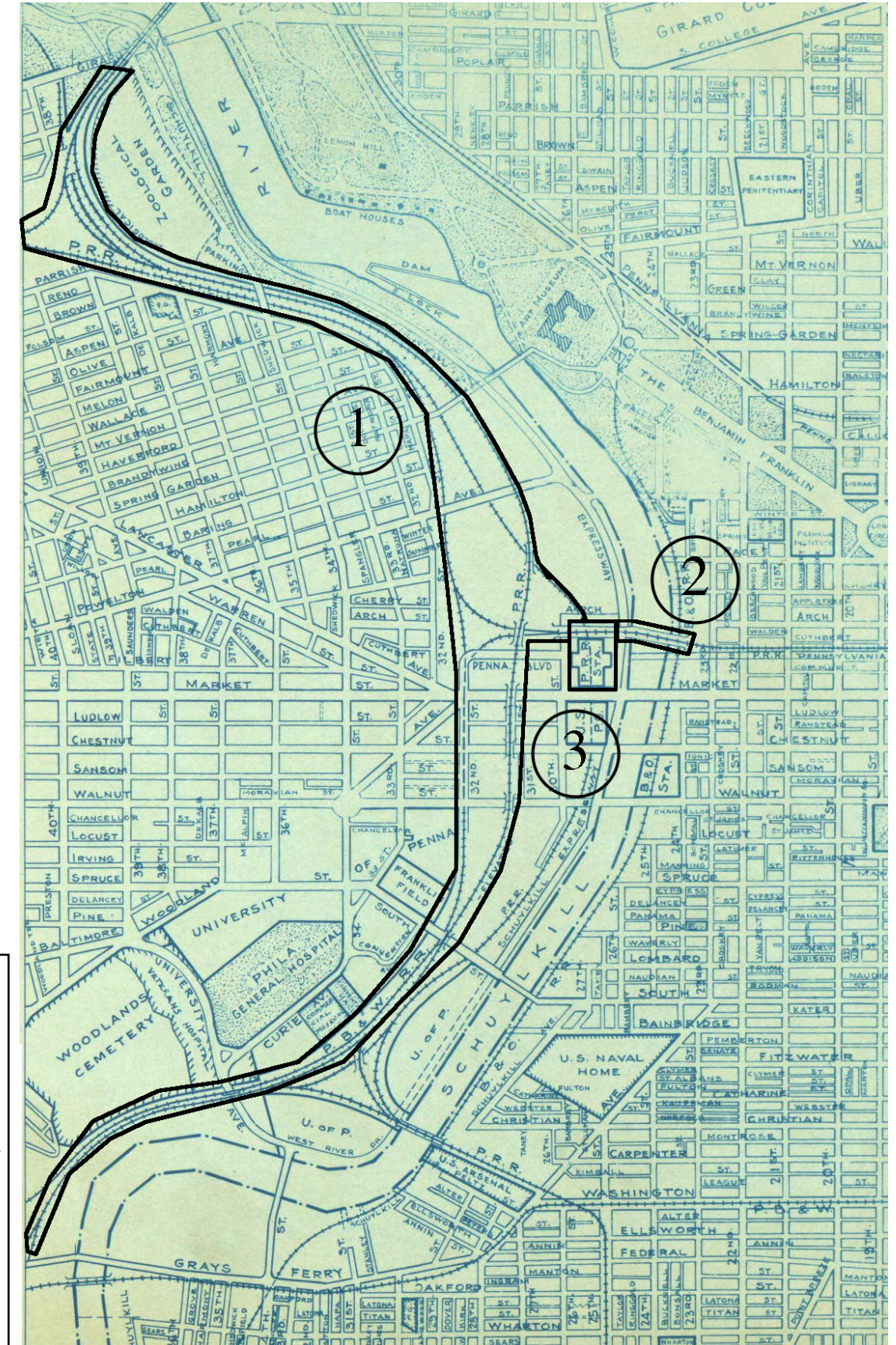


A view of 30th Street Station's east facade, facing the Schuylkill River

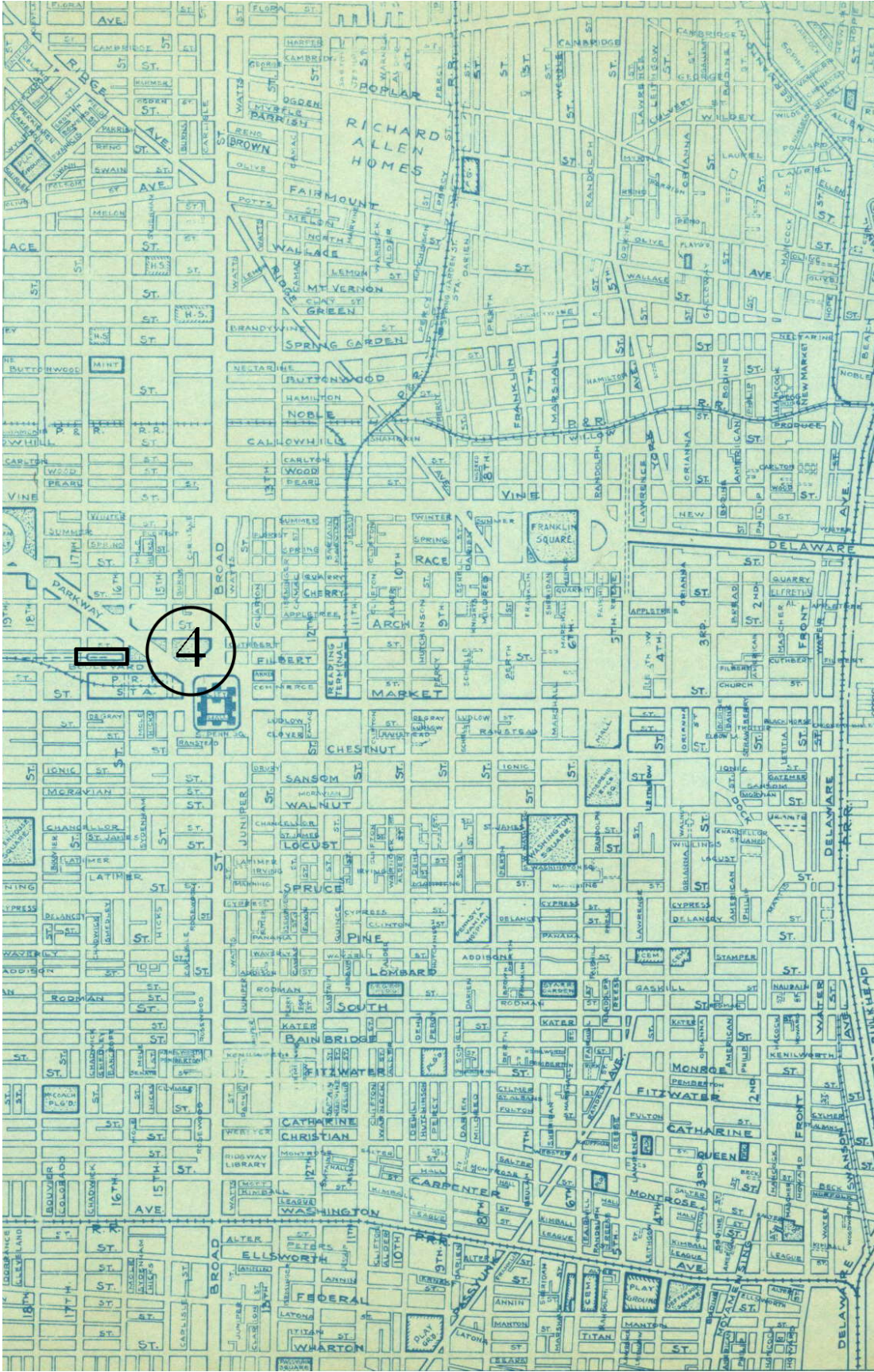
30th Street Station

By the early 20th century, the Pennsylvania Railroad realized the limitations of its grand Broad Street Station. The stub-end design of the station required lengthy and complicated train maneuvers, including backing locomotives out to 30th Street to turn around. The construction of a station on the western banks of the Schuylkill River relieved much of the congestion into Broad Street, allowing through-trains to continue onward to New York, Washington, D.C., or the western suburbs without having to cross the river into Center City. As part of the master plan for the new station, the previous West Philadelphia Station was demolished, and the surrounding train yards were reorganized to suit the new layout. Opened in 1933, 30th Street Station, originally called Pennsylvania Station, combined Greek and Roman architecture with an Art Deco interior. Commuter platforms on the upper level separated intercity through-service located beneath the station. The 30th Street Station became the PRR's modern hub for intercity trains, commuter rail, the Market Elevated Line, and the vast network of trolley cars into West Philadelphia. Acquired by Amtrak after the dissolution of the Pennsylvania Railroad, the station is one of the busiest in the United States.

1930-1950



1. Electrified lines west of Schuylkill River
2. SEPTA Schuylkill River Bridge
3. 30th Street Station
4. Suburban Station



The PRR's Suburban Station on the left, in 1931. The office building and underground station opened the previous year.

Suburban Station

As part of its Philadelphia Improvements Project in the mid-1920s to improve the efficiency of rail traffic into the city, the Pennsylvania Railroad opened Broad Street Suburban Station in 1930. The 8-track underground terminal relieved some of the congestion from Broad Street Station, taking on most of the electrified commuter trains coming into Center City. A four-track tunnel was built immediately north of the Chinese Wall, with trains surfacing near the Schuylkill River to cross into West Philadelphia. The underground complex provides a vast concourse with access to the buildings above it, including a 22-story Art Deco style tower, which became the new headquarters for the Pennsylvania Railroad in 1930. It became known as “Suburban Station” after Broad Street Station’s demolition in 1953, and remains one of Philadelphia’s busiest stations.



The iconic Presidential Conference Car on Market Street.

Philadelphia Transportation Company

The constant financial troubles and labor strikes of the Philadelphia Rapid Transit Company limited its effectiveness in expanding its system or upgrading its current equipment. In 1940, the Philadelphia Rapid Transit Company and its underlying companies were reorganized into the Philadelphia Transportation Company. The new PTC functioned in the same way as the PRT, and served more as a transitional company before a future municipal takeover. During its existence, the PTC converted many of the old streetcar lines into bus routes, but also employed the use of the still-popular Presidential Conference Committee streetcar. In 1968, declining revenues and the decrease of mass transit services finally brought about the end of over a century of privately-owned streetcar railways. The PTC was sold to the public agency Southeastern Pennsylvania Transportation Authority, or SEPTA. Before its sale, the Philadelphia system was the largest privately owned urban transit operator. Today, SEPTA still operates all bus, trolley, subway, and commuter rail services in the Philadelphia area.

References

- Aldrich, Mark. "Public Relations and Technology: The "Standard Railroad of the World" and The Crisis in Railroad Safety, 1897- 1916." *Pennsylvania History* Winter 74.1 (2007): 74-104. Penn State University Press.
- Altoona Railroaders Memorial Museum: Management Plan Environmental Assessment. Southwestern Pennsylvania Heritage Preservation Commission, 1992.
- Arnold & Dyer. *Philadelphia's Rapid Transit: Being An Account of the Construction and Equipment of the Market Street Subway-Elevated and Its Place in the Great System and Service of the Philadelphia Rapid Transit Company*. Rep. Philadelphia, 1908.
- Ashmead, Henry Graham. "Chapter XX Traveling And Transportation." *History of Delaware County*. L.H. Everts & Co., 1884.
<http://www.delcohistory.org/ashmead/ashmead_pg199.htm>.
- Baer, Christopher T. "PRR Chronology." Philadelphia PRRTHS. The Pennsylvania Railroad Technical & Historical Society, 20 Jan. 2013.
- Baist, George W. "Baist's Property Atlas of the City of Philadelphia, Penna, Complete in One Volume, 1888." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.
- Barnes, R. L. "Barnes Map of Philadelphia, 1865." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.
- Bezilla, Michael. *Electric Traction on the Pennsylvania Railroad, 1895-1968*. University Park: Pennsylvania State UP, 1980.
- Borgnis, Mervin E. *The Near-Side Car and The Legacy of Thomas E. Mitten*. Winchester, VA: Winchester Printers, 1994.
- Boucher, Jack E. 10. *Pennsylvania Railroad: 30th Street Station*. Philadelphia, Philadelphia. 1968. Photograph. Historic American Engineering Record, Philadelphia. Library of Congress.
- Boucher, Jack E. 20. *Zoo Substation*. Philadelphia, Philadelphia Co., PA. 1968. Photograph. Library of Congress Prints and Photographs Division Washington, D.C., Philadelphia. Library of Congress. Historic America Engineering Record.
- Boucher, Jack E. *West Philadelphia Elevated*. 1977. Photograph. U.S. Library of Congress, Prints and Photographs Division, "Built in America" Collection, Philadelphia. U.S. Department of the Interior, National Park Service, Historic American Engineering Record. Survey Number HAER PA-71.
- Bromley, G. W. "Atlas of the City of Philadelphia, 1910." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.
- Brotzman, Mike. "Zoo Tower- Pennsylvania Railroad." *The Signal Box*, <<http://www.signalbox.org/overseas/usa/zoo.htm>>.
- Bureau of Surveys and Design, Dept. of Streets. "Philadelphia Street Map, 1959." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.
- Burgess, George H., and Miles C. Kennedy. *Centennial History of the Pennsylvania Railroad Company, 1846-1946*. New York: Arno, 1976.
- Campbell, H.R. "Plan of the West Philadelphia Railroad, 1835." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <<http://www.philageohistory.org/>>.
- Campbell, William Bucke. *Old Towns and Districts of Philadelphia: An Address Delivered Before the City History Society of Philadelphia*. 5th ed. Vol. 4. Philadelphia: City History Society of Philadelphia, 1942.
- Cavalier, Julian. *Classic American Railroad Stations*. San Diego, CA: A.S. Barnes, 1980.
- "Chapter 1: History of the Altoona Railroad Shops." *Pennsylvania Railroad Shops and Works: Special History Study*. National Park Service, 22 Oct. 2004. <http://www.nps.gov/history/history/online_books/railroad/shs1d.htm>.
- Cheape, Charles W. *Moving the Masses: Urban Public Transit in New York, Boston, and Philadelphia, 1880-1912*. Cambridge, MA: Harvard UP, 1980.
- Chomet, Allison. "The Rise and Fall of the Philadelphia Rapid Transit Company." *Historical Society of Pennsylvania*. Historical Society of Pennsylvania, 7 Dec. 12. <<http://hsp.org/blogs/fondly-pennsylvania/the-rise-and-fall-of-the-philadelphia-rapid-transit-company>>.
- Churella, Albert J. "External and Internal Networks on the Pennsylvania Railroad: The Philadelphia Improvements." *Business and Economic History On-Line* 2 (2004): n. pag. Business History Conference, 2004. <<http://www.thebhc.org/publications/BEHonline/2004/Churella.pdf>>.
- Churella, Albert J. *Pennsylvania Railroad Volume 1: Building an Empire, 1846-1917*. Philadelphia: University of Pennsylvania, 2013.
- "City Hall Station Renovation Project." SEPTA. Southeastern Pennsylvania Transportation Authority, <<http://www.septa.org/construction/projects/dilworth/history.html>>.
- Cooke, Darby Line Route. 1923. Photograph. Department of City Transit 7903, Philadelphia. PhillyHistory.org. City of Philadelphia.
- Cox, Harold E. *The Road From Upper Darby: The Story of the Market Street Subway-Elevated*. New York: Electric Railroaders' Association, 1967.
- "CSX System Map." CSX. CSX Corporation, Inc., 2012. <<http://www.csx.com/index.cfm/customers/maps/csx-system-map/>>.

Cudahy, Brian J. *A Century of Subways: Celebrating 100 Years of New York's Underground Railways*. 3rd ed. New York: Fordham UP, 2004.

Dare, Charles P. *Philadelphia, Wilmington and Baltimore Railroad Guide: Containing a Description of the Scenery, Rivers, Towns, Villages, and Objects of Interest Along the Line of Road: Including Historical Sketches, Legends, &c.* Philadelphia: Fitzgibbon & Van Ness, 1856.

Denhof, Erica. "West Philadelphia: The Basic History, Chapter 2: A Streetcar Suburb in the City: West Philadelphia, 1854-1907." West Philadelphia Community History Center. University of Pennsylvania, 2009. <<http://www.archives.upenn.edu/histy/features/wphila/history/history2.html>>.

Dilts, James D. *The Great Road: The Building of the Baltimore and Ohio, the Nation's First Railroad, 1828-1853*. Stanford, CA: Stanford UP, 1993.

"Early Railroad Transportation." USHistory.org. Independence Hall Association, 4 Jan. 1995. <<http://www.ushistory.org/philadelphia/railroad.htm>>.

Ehlers, Henry E. *The Design, Construction, and Equipment of the Broad Street Subway In Philadelphia*. Rep. Philadelphia: Department of City Transit, 1927.

Eisen, Jack. "Public Agency Takes Over Philadelphia Transit System." *Washington Post* 2 Oct. 1968: A23.

The Electric Journal. Vol. XII. Pittsburgh: Electric Journal, 1904.

Elliot, Joseph. 3/4 View, Looking NW. - Philadelphia, Wilmington & Baltimore Railroad, Bridge No. 1, Spanning Schuylkill River, South of Grays Ferry Avenue, Philadelphia, Philadelphia County, PA. 1999. Photograph. Library of Congress Prints and Photographs Division Washington, D.C., Philadelphia. Library of Congress.

Fifty-Sixth Annual Report of the Board of Directors to the Stockholders for the Year 1902. Rep. Philadelphia: Pennsylvania Railroad, 1902.

"Frank Furness (1839-1912)." Collections. Architectural Archives of the University of Pennsylvania, <http://www.design.upenn.edu/archives/archives/collection_a-z.htm>.

"Frank Furness (1839-1912), University of Pennsylvania University Archives." University Archives & Record Center. University of Pennsylvania, 2013. <http://www.archives.upenn.edu/people/1800s/furness_frank.html>.

Gee, William A. *Pennsylvania Railroad Building and Insurance Company of North America Building*. 1931. Photograph. DOR Archives, Philadelphia. PhillyHistory.org. City of Philadelphia.

Haigis, John. "William Still, Darby, and the Desegregation of Philadelphia Streetcars." *Darby History*. , <<http://www.darbyhistory.com/Still-StreetcarStruggle.html>>.

Hamilton, Cynthia R. *National Register of Historic Places Registration Form - Pennsylvania Railroad Freight Building*. Rep. Philadelphia: United States Department of the Interior - National Park Service, 1999.

Hepp, John. "Evolving Spatial Patterns at Philadelphia's Late-Victorian Central Passenger Depots, 1876-1901." *Pennsylvania History Winter* 70.1 (2003): 1-27. Penn State University Press.

Hepp, John. "Public Transportation." *Encyclopedia of Greater Philadelphia*. Historical Society of Pennsylvania, 2014.

Hepp, John. "Subways and Elevated Lines." *Encyclopedia of Greater Philadelphia*. Historical Society of Pennsylvania, 2014.

Hess, Wenzel J. *East River Drive - Looking Northwest from Pennsylvania Railroad Bridge over Schuylkill River - Philadelphia, Pennsylvania*. 1931. Photograph. DOR Archives, Philadelphia. PhillyHistory.org. City of Philadelphia.

Historic American Engineering Record. *Frankford Elevated*. Rep. Comp. Carl E. Doebley. Philadelphia: National Park Service, 1998.

Historic American Engineering Record. *Market Street Elevated Railway*. Rep. Philadelphia: National Park Service, "History." City Hall Virtual Tour. City of Philadelphia, <http://www.phila.gov/virtualch/body_pages/history.html>.

Holton, James L. *The Reading Railroad: History of a Coal Age Empire*. Laury's Station, PA: Garrigues House, 1989.

Hopkins, G. M., C.E. "Map of Philadelphia, 1876." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.

Jackson, Joseph. "Chapter 25: West Philadelphia - Washington Street and the West Chester Road-Hamiltonville." *Market Street, Philadelphia: The Most Historic Highway in America, Its Merchants and Its Story*. Philadelphia: Public Ledger, 1918. N. pag.

Johnson, George C. *Lansdowne Past and Present: 1888-1908*. Lansdowne, PA: Johnson, 1908.

"Journal of the Franklin Institute." Pergamon Press 73.103 (1877): n. pag.

Junc's R.R. [railroad] Tunnel under Market & Chestnut Streets. 1865. Photograph. Stephen A. Schwarzman Building / Photography Collection, Miriam and Ira D. Wallach Division of Art, Prints and Photographs, New York. New York Public Library's Digital Library.

Lothes, Scott. "The Stages of U.S. Railroad Electrification." *Trains* 25 Sept. 2009: n. pag.

"The Main Line of Public Works of Pennsylvania." *The Pennsylvania Railroad Company: The Corporate, Financial and Construction History of Lines Owned, Operated and Controlled To December 31, 1945, Volume 1*. Comp. The Pennsylvania Railroad Company and Coverdale and Colpitts. Philadelphia: Philadelphia, Allen, Lane & Scott, 1946. N. pag. Hagley Manuscripts & Archives Department.

Map of Main Line of Public Works. Digital image. ExplorePAHistory.com. WITF Inc., <<http://explorepahistory.com/displayimage.php?imgId=1-2-526>>.

Mayer, Jann. *SEPTA Schuylkill River Bridge*. 2010. Photograph. Bridgehunter.com, Philadelphia.

McWhirter, John, and George Huckaby. "Models of Philadelphia's Budd Market Frankford Subway Elevated Cars." *Trolleyville*. , 20 Dec. 2008.<<http://www.trolleyville.com/tv/times/jan2009/MFSE%20CARS.htm>>.

Meeks, Carroll L. V. *The Railroad Station: An Architectural History*. New York: Dover Publications, 1995.

"Merger Approved By P.R.T. Investors." *New York Times* 16 Oct. 1939, Business & Finance sec.: 39.

Meyers, Allen, and Joel Spivak. *Philadelphia Railroads*. Charleston, SC: Arcadia Pub., 2010.

Meyers, Allen, and Joel Spivak. *Philadelphia Trolleys*. Portsmouth, NH: Arcadia Pub., 2003.

Moll, Fred J. *Pennsylvania's Covered Bridges*. Charleston, SC: Arcadia, 2012.

Morley, Christopher. *Philadelphia*. New York: Fordham UP, 1990.

National Register of Historic Places Registration Form - Philadelphia, Wilmington, and Baltimore Railroad Freight Shed. Rep. : United States Department of the Interior - National Park Service, 2011.

Naylor, David. *Railroad Stations: The Buildings That Linked the Nation*. New York: W.W. Norton &, 2012.

Newell, Robert. Center Square, Site of City Hall. 1871. Photograph. Free Library - Historical Images of Philadelphia, Philadelphia. PhillyHistory.org. City of Philadelphia.

"Overview - The Railroad in Pennsylvania." *ExplorePAHistory.com - Stories from PA History*. , 2011.<<http://explorepahistory.com/story.php?storyId=1-9-10>>.

PCC 2562. Photograph. H J Adamcik Photo Collection, Philadelphia. The Electric City Trolley Museum Association.<http://www.ectma.org/hja_photos/pcc075.jpg>.

Pennsylvania Railroad Freight Station - Northwest Corner Broad Street and Washington Avenue. 1914. Photograph. DOR Archives, Philadelphia. PhillyHistory.org. City of Philadelphia.

"Philadelphia County Pennsylvania Railroad Stations." *Pennsylvania Railroad Stations Past and Present*. , 2011.<<http://www.west2k.com/pastations/philadelphia.shtml>>.

"Philadelphia Historic Name Streets Index." *PhillyHistory.org*. City of Philadelphia Department of Records, 2014.

"Philadelphia Rapid Transit Company." *Historical Society of Pennsylvania*. Albert M. Greenfield Foundation, Philadelphia Zoning Board, comp. "City of Philadelphia Zoning Maps, 1933." Map. Greater Philadelphia GeoHistory Network. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.

Philadelphia's Broad Street Station. Photograph. Pennsylvania State Archives, Philadelphia. *ExplorePAHistory.com*.

Poor, Henry V. *History of the Railroads and Canals of the United States*. New York: J.H. Schultz, 1860.

"Proceedings of the Engineers' Club of Philadelphia." *Engineers' Club of Philadelphia* 34 (1917).

Rau, William Herman. *Traveling the Pennsylvania Railroad: The Photographs of William H. Rau*. Philadelphia: University of Pennsylvania in Cooperation with the Library of Philadelphia, 2002.

"RDG Co.—A Brief History." *Reading Company Technical & Historical Society*. Reading Company Technical & Historical Society, Inc., 2011.<http://www.readingrailroad.org/reading/rdg_history.shtml>.

Reynolds, Kirk, and Dave Oroszi. *Baltimore & Ohio Railroad*. Osceola, WI: MBI Pub., 2000.

Schafer, Mike, and Brian Solomon. *Pennsylvania Railroad*. Minneapolis, MN: Voyageur, 2009.

Schramm, Jeffrey W. *Out of Steam: Dieselization and American Railroads, 1920-1960*. Bethlehem, PA: Lehigh UP, 2010.

Sidney, J. D. "Map of the City of Philadelphia Together with All the Surrounding Districts." *Greater Philadelphia GeoHistory Network*. Athenaeum of Philadelphia, <www.PhilaGeoHistory.org>.

Skaler, Robert Morris., and Thomas H. Keels. *Philadelphia's Rittenhouse Square*. Charleston, SC: Arcadia Pub., 2008.

Skaler, Robert Morris. *West Philadelphia, University City to 52nd Street*. Charleston, SC: Arcadia, 2002.

Smith's Hand-book and Guide in Philadelphia. Philadelphia: G Delp, 1870.

Solomon, Brian. *Railroads of Pennsylvania*. St. Paul, MN: MBI Pub. and Voyageur, 2008.

Speirs, Frederic William. *The Street Railway System of Philadelphia: Its History and Present Condition*. Baltimore: Johns Hopkins, 1897.

Spivey, Justin M. *Connecting Railway, Schuylkill River Bridge*. Rep. Washington, D.C.: Historic American Engineering Record, 2001. National Park Service.

Spivey, Justin M. *Pennsylvania Railroad, West Philadelphia Elevated*. Rep. Philadelphia: Historic American Engineering Record, 2000. Spivey, Justin M. *Philadelphia, Wilmington and Baltimore Railroad, Bridge No. 1*. Rep. Philadelphia: Historic American Engineering Record, 2000.

Springirth, Kenneth C. *Suburban Philadelphia Trolleys*. Charleston, SC: Arcadia Pub., 2007.

Strausbaugh, Joseph A. "The Influence of the Pennsylvania Mainline of Public Works." *The Gettysburg Historical Journal* 5.1 (2006): 1 Jan. 2006.

Sullivan, Promise, and Kim Franklin. "West Philadelphia: The Basic History, Chapter 1." *West Philadelphia Community History Center*. University of Pennsylvania, 2009. <<http://www.archives.upenn.edu/histy/features/wphila/history/history1.html>>.

Taylor, Frank H. *The Philadelphia Electrical Handbook; A Sketch of the City and Some of Its Great Enterprises for the Information of Visitors from Abroad Attending the International Electrical Congress*. St. Louis: American Institute of Electrical Engineers, 1904.

Thayer, Preston, and Jed Porter. "Market Street Elevated Railroad." *Workshop of the World*, 30th Street Section and New Post Office. 1933. Photograph. Dallin Aerial Survey Company Photographs, Philadelphia. Dallin Aerial Survey Company. Comp. Victor Dallin. Hagley Digital Archives.

Thomas, George E. "Frank Furness: Inventing Modern." *Frank Furness Inventing Modern*. , 2012. <<http://frankfurness.org/>>.

Treese, Lorett. *Railroads of Pennsylvania: Fragments of the Past in the Keystone Landscape*. 1st ed. Mechanicsburg, PA: Stackpole, 2003.

Vieiria, M. Laffitte. *West Philadelphia Illustrated: Early History of West Philadelphia and Its Environs, Its People, and Its Historical Points*. Philadelphia: Avil Print, 1903.

Walnut Street at 31st Street - West Chester Railroad. 1888. Photograph. DOR Archives, Philadelphia. PhillyHistory.org. City of Philadelphia.

Waskie, Anthony J. *Philadelphia and the Civil War: Arsenal of the Union*. Charleston, SC: History, 2011.

Watt, William J. *The Pennsylvania Railroad in Indiana*. Bloomington: Indiana UP, 1999.

Weigley, Russell Frank. *Philadelphia: A 300 Year History*. New York: W.W. Norton, 1982.

Wetherill, S. P. *Philadelphia History*. Vol. 2. Philadelphia: City History Society of Philadelphia, 1916.

Wilson, William Bender. *History of the Pennsylvania Railroad Company with Plan of Organization, Portraits of Officials, and Biographical Sketches*. Vol. 1. Philadelphia: H.T. Coates, 1899.

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